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ABSTRACT

A qualitative study examined what happens to the learning environment when a heterogeneous group of male adults uses technology and collaborative strategies to improve their writing skills. During the 14-week study, the teacher modeled the use of technology when introducing units in a writing course and used the abilities and strengths of the adult learners in the classroom. Working in teams, the students learned to use Microsoft Word, Excel, and PowerPoint to complete their assignments, projects, and research papers. Data were gathered through jottings collected from the students, with classroom videos, student evaluations, and surveys used to validate the findings. The data showed that the highly collaborative environment was facilitated by the use of technology and teacher strategies. The environment was highly social, and the students were engaged with one another in the sharing of language and knowledge while using technology. The classroom was transformed by the concurrent use of technology and collaboration. (Research notes and student surveys make up the bulk of this document.) (KC)

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ED 410 462

COLLABORATIVE TECHNOLOGY

An Examination of Adults' Concurrent use of Technology and Collaboration

by

Janice J. Hill

Master's Thesis
CHESTNUT HILL COLLEGE
Winter 1997

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ABSTRACT

The objective of this qualitative study was to examine what happens to the learning environment when a heterogeneous group of male adults use technology and collaboration strategies in an effort to improve their writing skills.

During this 14-week study, the researcher modeled the use of technology when introducing various units in the writing course and used the abilities and strengths of the adult learners in the classroom. Also, in the classroom the students worked in teams and learned to use MS Word, Excel and Power Point to complete their assignments, projects and research papers.

This study suggests that "collaborative technology" **transforms** the classroom environment, **transforms** the students and **transforms** the instructor. Indeed, the environment became highly social with a lot of laughter, conversation, peer review and support among the students. The students were engaged with one another in the sharing of language and knowledge while using the technology. In this environment, unhealthy competition was non-existent and the instructor was able to transcend the role of classroom guru.

For this study, the primary sources of data were the jottings collected by the researcher. In addition to the jottings, the researcher used classroom videos, student evaluations and surveys to validate the findings. The core variable which emerged was highly collaborative environment which was propelled with the use of technology and teacher strategies. Indeed, the teacher must design the framework which enables a socially rich learning environment to germinate. In fact, the environment became "communal like," according to the researcher.

Key words: collaborative, cooperative, community, discussion, interactive, language, technology, transform, peer review, sharing and social.

INTRODUCTION

The Pennsylvania Institute of Technology (PIT) is a two-year college which has met the broad educational needs of students in the Delaware Valley and surrounding communities for the last five decades. Traditionally, the college's primary mission focused on technical training and job placement, but it has expanded this mission to include such courses of study as Medical Technology and Business and Office Technology. The college boasts that it has a consistent employment placement rate of over ninety-five percent (95%) for its graduates. Additionally, the college continues to meet successfully the needs of those students who want to obtain additional technical skills needed for gainful employment.

At present, PIT has a mixed student body consisting of a wide array of students who primarily come from low and middle income families. In fact, more than ninety percent (90%) of its student body receive some form of financial aid. PIT's campus can be classified as a multicultural campus. The college's student body includes working adults who want to complete their Associate's Degree or receive specialized training as well as high school students who take college credit courses in their sophomore or senior year.

The college prides itself in the fact that it is able to meet the needs of what it refers to as the *"by-pass"* learner. These learners are typically non-traditional college students. For example, many of them performed poorly in high school, are first generation college entrants, have no plans to further their education or are adults returning to the academic community after an extended period of absence.

In the various programs offered students can receive a one-year certificate or an Associate's Degree in a given field. Recently, the college was re-accredited as a two-year college. This re-accreditation can be attributed, in part, to the dedicated and hard working faculty and administrative team at the college.

I had been adjunct faculty member at PIT for three years, teaching business and computer-related courses when in the Fall of 1996 the Dean of Academic Affairs offered me a full-time teaching assignment at the college. As part of this assignment, I was scheduled to teach Technical Writing--English 202, aimed at improving students' business writing abilities. Although I had previously taught this course as an Independent Study course at PIT, I was a little apprehensive about teaching Technical Writing in a formal classroom setting.

Previous to this study, the Technical Writing course had been taught in a traditional classroom. Technology was not integrated into this course nor was a collaborative pedagogy ever implemented in this course. Thus the students were never immersed in a *technology* or *collaborative environment* when attempting to improve their business writing skills. All engineering and computer majors are required to take the Technical Writing Course.

While these majors have knowledge of a variety of programming or computer aided design programs, many of them are not proficient in some of the current business applications software packages on the market. Traditionally at the college, students in the Technical Writing course worked independently of each another, and many struggled to

learn software packages to complete their assignments on their own or paid someone to prepare their projects on the computer.

Since I was scheduled to teach the Technical Writing Course, I concluded that this would be a good class to research. I planned to observe what happened when I used a "collaborative technology" pedagogy to present the course content to the students. Specifically, I wanted to examine the context of a collaborative learning environment with the use of technology. At this point, I will define the term "collaborative technology" to mean the simultaneous use of computer technology and collaborative pedagogy in the classroom. Roschelle (1996, p. 2) states that "collaborative technology" is "the construction of communal ways of seeing, acting and knowing." Consequently, with the *appropriate* use of technology and collaborative strategies students can construct meaning together. Research supports the implementation of technology and collaborative models to enhance the learning environment for all students in the classroom. (Male, 1992).

As the researcher, I approached this project with no clear expectations of what would occur. Therefore, I was ecstatic when the classroom was changed from a traditional environment where technology is used primarily in an individual manner to an environment which technology is used collaboratively. Gruber (1996) reported in her study that in collaborative environments' students desired to be successful and appeared to enjoy the learning environment.

PURPOSE

Initially, this researcher approached the study unaware of what would transpire in the technical writing course when a "collaborative technology" pedagogy was implemented. Although having taught computer application courses for almost a decade, I had never used collaborative strategies in a computer environment in an attempt to improve student performance. Traditionally, in previous computer classes, students interacted with the technology on an individual basis but never with each other for prolonged periods of time. This was simply because, as an instructor, I was not aware of how the learning environment could be *transformed* with the use of a "*collaborative technology*" model. Although in my computer classrooms some sharing would occur between students this sharing was limited because students were focused on getting their own work done. After being a participant-observer in this study, I became cognizant of how powerful this new model is and how important the educator's role is in establishing the climate and designing the framework that enables a socially rich learning environment to germinate (Maltese, 1991).

My journey begins in an attempt to examine the phenomenon of "*collaborative technology.*" The question addressed in this study was stated as follows:

> *"What happens when adults learners attempt to improve their writing skills using technology in a team environment?"*

REVIEW OF LITERATURE

At this time, research confirms that students learn more and retain information longer when working in a cooperative or collaborative environment rather than in isolation. Kenneth Bruffee (1995, p.1) states that college educators are rediscovering that "two heads are better than one." In a study performed by Bracey (1992) students in a cooperative-based computer environment performed better than students working individually in a similar setting. Additionally, research continues to support the notion that students learn more when using technology as opposed to working in a classroom without technology (Gamson, 1994). Johnson, Johnson & Stanne (1986) reported better results in student achievement when cooperative learning was integrated with computer technology. Hence, to *transform* the learning environment and *maximize* learning for all students, educators should consider simultaneously integrating technology and cooperative/collaborative strategies in their classrooms.

Problems with Using Technology in Meaningful Ways

As we approach the year 2000 few educators are using computer technology in ways to enhance learning in their classrooms (De Corte, 1996). Schofield (1993) states that there are definite reasons why educators are not using technology in more meaningful ways. First, many educators do not understand how to implement effectively cooperative or collaborative strategies in a computer classroom. Secondly, there are still too many educators who view computer technology and collaborative learning strategies as inconsequential to improving the learning process. Third, the lack of computer knowledge and inadequate in-service training programs contribute to the problem of how

technology is used in the classroom (Brown, 1997). De Corte (1996, p. 130) confirms Schofield's findings elaborating that computer technology is still perceived as an *"add on"* in most classrooms. Also, De Corte (1996) indicates that obsolete technology, limited quality and quantity of software, and bureaucratic issues contribute to the problem of inadequate use of technology in the classroom. As a result of these factors, the use of Computer Aided Instruction (CAI) particularly in English and Math classes continues to be widespread in the classroom. However, it is encouraging to know that some visionary educators (Young, 1995; Craig, 1997) are beginning to use technology in meaningful ways in their classrooms. For instance, Craig (1997) observed the use of the Internet and the collaborative process with low achieving math students. What he found was higher student motivation and performance in his math class.

In concluding this discussion on problems with technology use in the classroom, I would be remiss if I did not mention the fact that many teacher education programs have not equipped educators with the "collaborative technology" skills necessary to transform the students' learning environment and improve performance. Certainly, technology and collaborative skills are an important part of any educator's repertoire as they enter the next century.

A detailed synopsis of my findings will be presented later in this study. However, before I go into the details of my research, I believe it is important to clarify the meaning of the terms *cooperative and collaborative learning.* The reason for this clarification is two-fold. First, I did not fully understand the power of these models preceding this research and secondly, when I asked several educators to differentiate between the terms

cooperative and collaborative learning only one could. Clearly, for educators to be able to implement a "*collaborative technology*" model, they must be able to differentiate between cooperative and collaborative learning.

Jarvela (1996, p. 91) states that, "The role of social interaction is important in a technologically rich learning environment." He says that although using technology alone can improve learning, more powerful learning environments need to emerge. This researcher believes that to foster this environment, educators must understand and appreciate the power of and differences between cooperative and collaborative strategies.

Differences between Collaborative and Cooperative

In many cases, the terms cooperative and collaborative learning (CCL) are unclear to educators. Thus, they often use them interchangeably and sometimes inappropriately. However, there are some distinct differences in these two models. Some distinguishing features between these two learning models are reported in *Building Bridges Between Cooperative and Collaborative Learning* (Matthews et al., 1996).

Matthews states specifically that in *cooperative groups* the following things happen: students are assigned group roles, the teacher moves from team to team and observes interactions and listens to group conversations; provides training on the social and interdependence skills; and the teacher makes certain that groups perform processing tasks. On the contrary, in *collaborative groups* the students rather than the teachers choose member roles. Also, problem resolution is referred back to the group and little or no formal training in the group process occurs. Additionally, in collaborative environments the students take full responsibility for final form. A final important

distinguishing feature between these two models is that cooperative learning generally maintains traditional authority structures, while collaborative model can take the student and professor into enemy territory. This means that the student does not accept unequivocally whatever the professor says (Gamson, 1994; Bruffee, 1995).

Unquestionably, both of these models foster the idea of "joint intellect" (Smith & MacGregor 1993, p. 10). However, educators should remember that cooperative and collaborative models have several distinguishing features as cited earlier. According to Bruffee it is important to remember that the most important distinguishing features are that these models were designed to enhance learning of students of different ages, experience levels and group skills. With both models students work together in small groups (2-5 people) and there is positive interdependence while the role of the teacher changes from "sage on the stage" to the "guide on the side" (Davidson, 1996, p. 1). Smith & MacGregor (1993) sum up this discourse by placing cooperative learning at *"the lower end of the continuum of the collaborative process."* Undoubtedly, the collaborative and technology models have their roots in Dewey and other constructivist philosophers Roschell (1994).

Johnson & Johnson (1996) reported the following characteristics are evident in a learning environment that fosters joint intellect. In this environment students do the following:

- establish shared identity with group members
- receive social support and encouragement to take risk to foster intellectual competency
- construct and extend conceptual understanding of what they are learning via language
- use shared mental models learned in flexible ways to solve problems
- receive interpersonal feedback as to how well things are going

◊ provide peer review and become accountable to the group
◊ acquire attitude of openness to growth
◊ observe the most outstanding group members and pattern themselves accordingly.

Now that the terms *cooperative and collaborative* learning have been clarified, it is time to look at what using technology in the classroom means according to a classical constructivist.

Defining Technology According to Dewey

Dewey defined technology as any instrument that is used in the process of inquiry. These instruments can include hammers, language, and symbols, as well as ideas and they facilitate problem resolution (Roschelle, 1994). Roschelle points out that Dewey's definition of technology was not nebulous but references three specific roles of technology relative to inquiry. These specific roles are:

- Extending engagement with the problematic situation. For example, a video tape allows students or educators to rehearse a situation or a computer program can be re-played to gain clarity of events.
- Providing focus and context--allowing for a microscopic view of the dynamics of a problem situation while maintaining the macroscopic perspective. For instance, learners as well as educators are able to evaluate discrete events that occur in a larger context.
- Enabling communicative action--meaning can be established in the course of non-verbal activity, which fosters language development. For example, the use of non-verbal clues between team members.

Using technology without collaboration fits *partly* into Dewey's views on technology in the classroom environment but to fully align with Dewey's views on the learning environment, the social aspect of learning must taken into consideration. This is where the "collaborative technology" model emerges because it allows students to communicate with each other while using modern technological tools such as the computer. This new model allows students to discuss their progress and evaluate their projects with the aid of computer technology. One theory regarding language is cited by Spaudling (1989) who states that language is a purely social enterprise and discussion in a technology environment fosters the social climate of the classroom.

According to Jarvela (1996) and Schofield (1995) technology must not be used to preserve tradition. Assuredly, Dewey and other constructivists would sanction the "collaborative technology" model because it *transforms the learning environment, transforms the student* and *transforms the instructor*.

I believe it would beneficial to the students if educators incorporate the model discussed in this study in some of their classrooms units. This can only occur as educators are given appropriate training and gain the support of the "system"--higher educational institutions, administrators and government agencies to assist them in developing professionally, so they can begin to transform their learning environments (Newman, 1992).

Since research supports the value of the collaborative model, researchers are designing computer programs which emulate the social environment thereby allowing the student and the technology to interact in more meaningful ways. At this time,

sophisticated intelligent programs are being designed and tested in an attempt to improve student interaction with technology and early results indicate a small degree of success. Perhaps in the future there will be less need for a "collaborative technology" model, but this remains to be seen (Hakkinen, 1996).

Of course learning takes place during activity and the sharing of language. The "collaborative technology" model empowers students to take advantage of the *social and physical* aspects of the learning environment. With this model students are able to manipulate data, share ideas, problem solve and design new constructs with the use of technology. The use of technology in conjunction with collaborative learning can foster a dynamic environment where teachers, as well as the students, can learn, grow and thrive.

METHODOLOGY

The purpose of the grounded theory research method is to develop explanatory theory concerning common social life patterns. "Grounded theory was derived from symbolic interactionism which is both a theory about human behavior and an approach to inquiring about human conduct and group behavior" (Annells, 1996, p. 379). It is an inductive discovery method which allows for vivid descriptions and explanations of processes as identified in local contexts (Miles and Huberman, 1993). According to Hutchinson:

> The discovery of a core variable is the goal of the researcher and is essential to a quality grounded theory. Continuous reference to the data combined with rigorous analytic thinking will eventually yield such a variable. The core variable has three essential characteristics: it recurs frequently in the data; it links the data together; and it explains much of the variation in the data. This variable becomes the basis for the generation of the theory. The properties, phases, dimensions of the theory are inextricably related to the core variable. (Hutchinson, 1988, p. 123)

Specifically, I wanted to examine the context of the learning environment and see what happens when adults interact with each other and computer applications software during the writing process.

For this study, I analyzed the events that occurred during each session for which I was a participant-observer. The class met on week-ends in 3-hour intervals from 11:30 AM-2:30 PM. During each session, I collected data by way of Jottings/Reflections and Expanded Observations. (Appendix A); Questionnaires (Appendix B); Journals (Appendix C) and a Student Survey (Appendix D). These data were then used to explicate patterns in the learning environment over the period of this study. However, the jottings were the dominant source for my analysis.

Before my research was over, I did observe a traditional writing class at PIT for a comparative analysis of these two learning environments. The collaborative environment was markedly different from to the traditional class environment. Please refer to Jotting 11/22/96 (Appendix E).

RESEARCH DESIGN

This is an ethnographic study which examines the context of the learning environment--looking closely at the effects of "collaborative technology" upon learners, specifically adult male learners. This model simultaneously uses collaboration and computer technology. Over a fourteen-week period the researcher was a participant-observer in this study. The students were a heterogeneous group of male adults who used computer technology (applications software) and the collaborative process in an effort to improve their writing skills. In the classroom there was continual conversation, peer review, sharing and feedback between these adult learners. Also, unhealthy competition was eliminated from the learning environment.

The course requirement consisted of the development of a student portfolio which these prospective two-year technical degree candidates could use in their employment search. Requirements for the portfolio included a letter of introduction, a job reference section which included a cover letter and resume, a process paper and a research paper on a topic related to the students field-of-study or interest. In this environment, the instructor had the students work in teams during class time. Some students worked outside of class time to complete specific projects. Additionally, the students learned how to use various applications features in *Microsoft Office Professional Suite*, a popular software application package. In particular, they learned how to develop memos and business letters using MS Word, present graphics using Excel and prepare a research outline using Power Point. Students worked together and learned how to use these

packages during the writing process. For instance, the students worked in teams on improving sentence structure through the development of a mock research outline. Also, they worked together to develop their introduction letters and other pieces in their portfolio.

The text used for this course was Technical Writing: Process and Product by Gerson and Gerson, 1993 which placed emphasis on the team process. Additional supplemental writing materials were used to assist in the research endeavor. These included: Model Research Papers for Writers: Handbook for Writers, Eleventh Edition, Prentice Hall, 1991. NJ, The Research Sourcebook: A Workbook for Research Papers, Paige Wilson, 1989 Holt, Rinehart and Winston, Inc., Florida and A Pocket Style Manual, Hacker, D., Bedford Books of St. Martin's Press, 1993, MA.

The content consisted of defining technical writing, document design, written correspondence, oral presentations, and resumes/cover letters. The instructor continually emphasized that writing is a process and encouraged the students to continually review their projects for improvements.

The researcher presented the course material using technology as a medium. On several occasions Power Point was used to introduce new writing concepts to the students. Rather than discussing effective graphics, the instructor demonstrated how to prepare graphics using Excel. After the presentation, students formed teams and used the computer to develop a graphic presentation. During the course, students were required to develop specific pieces for their portfolios.

Throughout the course continuous interaction among peers and feedback occurred. The environment became highly social, *partly because of the physical interaction of the students with the technology* and *partly because of the collaborative nature of the environment.*

A close look at the environment revealed that there was a high degree of socialization which included, among other things, peer review, dialogue, and informal interactions with each other, as well as with the technology. The environment was dynamic, social support was high and the students were productive. Furthermore, there was a sense of belonging, as well as the need for accountability among the group members (Gruber & Habanek, 1996; Tunstall, 1992). Many positive comments were made by the students relative to the environment and were reiterated in their journals or surveys. For example, Mark said, "interaction with instruction and the other students is very beneficial." (Appendix C). Caline stated that he personally liked learning this way much better because the technology helps "my ideas to flow in a logical fashion." (Appendix D). Steve said "it is challenging and refreshing." (Appendix B) This environment was different from the traditional classroom environment which tends to foster individualism (Johnson & Johnson, 1996).

Smith & MacGregor (1994, p. 22) stated that using collaborative strategies can result in the emergence of "a community of learners." In fact, what emerged in from study was a transformed learning environment. The researcher used the term community-like when making reference to this study. Here, the researcher observed students sharing their ideas and projects freely with their peers. This was a new and exciting experience

for the researcher and most of the students as well. Once vicariously immersed in this environment, the researcher became convinced of the value of integrating technology and collaborative strategies in the classroom environment. As a result of this experience, before the semester was over, she began to implement the group process in other courses at PIT, and is presently using the "collaborative technology" paradigm in her computer courses at Chestnut Hill College.

Clearly, many educators still do not have adequate access to technology, but they can easily learn and use collaborative strategies in their classrooms to enhance the learning environment. Certainly, I am not suggesting that all other teaching strategies be abolished, but I believe that the integration of technology and collaboration, where possible, will improve the learning environment for all students.

At this point, I will summarize the events of each session. The Video that accompanies this research captures some of the essence of this study.

Selecting a Study Group

Initially, I had four classes to choose from to conduct the study. I observed these classes which included: English 101, Business Management, Spreadsheets using Excel or Technical Writing 202.

I chose the Technical Writing course primarily because historically at the college the Technical Writing class is scheduled in a traditional class room and neither technology nor collaborative strategies are integrated into the course. Usually, PIT will offer course work to five or six students in a class and this is good because of its student body population. However, I wanted a few more students for the research, because a few students always drop after the beginning of a class. Since the Technical Writing class was projected to have ten students and was scheduled to meet every Saturday from 11:30 a.m. to 2:30 p.m., I thought this was an additional advantage of using this class for research. My average class size turned out to be around seven students during each Saturday session primarily because of job demands.

I entered the first session not sure how these adults would respond to being research subjects. However, when I explained to them that I planned to conduct the course using current application software, they appeared eager to improve their writing skills. Also they expressed a desire to improve their computer software application skills and they had no objections to being research subjects. For instance, Calin, David and Justin stated that they wanted to improve their writing and computer skills (Appendix A, 9/7/96, p.2).

Participants

The class had 10 members but dropped down to 8 after the first few weeks of class. We had one female, who dropped the course for personal reasons. One male took an independent study with the instructor because of his work schedule and he came to the Saturday class periodically.

Adult Learners	*Field of Study*
Booth, Adam	Computer Engineering Technician
Fiensteine, Mark	Computer Engineering Technology
Hamid, Ali *	Computer Engineering Technology
Lambert, Sandra**	Computer/Electronic Technology Engineering
Moi, David	Computer/Electronic Engineering
Morris, Steve	Computer Electronics Technology
Pickens, Justin	Computer/Electronic Technology Engineering
Reid, Martin	Computer Engineering Technology
Sims, Kyle	Computer Engineering Technology
Weaver, Calin	Architectural/Civil Engineering

**Hamid, an ESL student, had to work on most Saturdays so I met with him independently on several occasions. He said he felt his writing skills improved. You can see the evolution of his introduction paper and a copy of his process paper. Certainly, while these pieces are not perfect his writing skills improved.*
***Sandra dropped the course.*

NARRATIVE

The management theorist, Wheatley (1994), suggests that we create reality through engagement with others and with events. I would add that we can enhance our realities when we interact with technology. What emerges when using "collaborative technology" is an environment in which the educator is not in absolute control. What the educator does is establish parameters and enable students to grow and change. In the past, students sitting orderly in their seats, working quietly at their desks or listening intently to a lecture were perceived as learners, albeit passive. To the contrary, Wheatley's (1994) notion of active and unpredictable environments is modeled in a "collaborative technology" environment.

Below is a discussion of what occurred during the fourteen week study in a chaotic environment. The events here are dynamic and unpredictable but occur within the guidelines established by the instructor.

Scenario 1 (9/7/96)

Initially, I spent the first part of class reviewing course requirements. I reviewed the course syllabus and noted some modifications like the fact that I would be integrating the team process and technology in the unit. The class appeared to be excited about using technology to improve their writing. Calin stated he wanted to learn the program because he is in the field often and cannot use the computers in the office (Appendix A, 9/7/96, p.1). Some students had questions about grading and projects. A few students expressed concern about the team process because of their work and home locations. I explained

that most of the team work would occur in class using partners and technology but that the students could work outside of class on a particular project.

Then, I introduced the concepts of technical writing which included the five basic types of writing. I focused on purpose, audience and tone in written correspondence and presented the content using Power Point. After break, I reviewed Chapter Two which discussed the writing process. Finally, I introduced the students to some of the basic features of MS Word such as creating, saving and printing a short document. After a review of the writing process and MS Word features, the students were asked to get into teams to rewrite a memo using MS Word. The students in this first session seemed eager to learn the new application package as well as develop better writing skills. Kyle and Mark were very focused and the first to finish their assignment. They shared their recommendations for a memo revision with the group.

Scenario 2 (9/14/96)

As the instructor, I again felt it was my responsibility to design a unit that would foster interaction with the material. Therefore, I used Power Point to present Chapters 3 and 4 to the students. I made the lesson interactive and allowed students to interact with the content by posing questions in my presentation. After break, I presented Chapter 5 on document design.

When we discussed sexist language, many of the students did not see the need to make an issue of gender free language in the work place or school. Some of them felt the issue of gender free language was going a little too far. After I explained some of the reasons we need to have gender free language in the workplace they were more willing to

accept terms such as "policeperson." I spent some time reviewing additional features in MS Word: fonts, type style and size, spell check and grammar check. At this occasion, the students appeared more relaxed than the first session. They broke into teams and used MS Word to complete Activity One and Team Project 3 in the text. When Mark and Kyle finished their assignment they began to joke around.

Scenario 3 (9/21/96)

Today the students' responses to the absence of computers in the classroom were fascinating. The computers were taken out of the lab for the morning because of a conference downtown. Many students came into the room in disbelief. For instance, Calin just stood in doorway the looking around for a second or two before he entered the room. Many of the students exhibited surprised looks on their faces as they entered the computer room. I assured them that this was a one-time event and that we would have the computers back for the next class session.

The first agenda item for the day was to give the students a grammar review quiz to assess their skills. Their grades ranged from the mid 60s to 90s. Then we reviewed Chapter 18, and I asked them to break into teams and to complete the units on fragments and commas.

Next, I reviewed with the students Chapter 10 (Technical Descriptions and Chapter 11 (Designing Instructions and User's Manuals) which focused on developing clear written instructions. This was an interesting session, because my goal today was to observe and record what would happen if I asked students to work independently of each other. I assigned an independent project on developing instructions for operating a

manual. The students had to examine the overhead which I placed at the end of the table, draw a picture and write user's instructions. However, I noticed that the students began to confer with each other and help each other in developing instructions for the overhead projector. This was good because it was apparent that by the third week a sense of freedom, sharing and support was emerging. I referenced this event as ***Forced Isolation*** in my Jottings.

Scenario 4 (9/28/96)

Initially, I started the class by demonstrating some additional formatting features in the MS word program. Students worked in teams to develop their introduction papers. The purpose of this assignment was to prepare students for an initial interview by preparing a brief synopsis of their work history which they could present to a prospective employer.

Two of my students, Adam and Sandra, were unprepared because they did not bring a draft with them to class. However, Kyle and Calin both worked with these students and assisted them in developing a first draft. Kyle and Calin appeared interested in the success of these students and spent a lot of time with them. Unfortunately, Sandra, the only female in the class was never officially registered in the course and later dropped the course.

During this session the issue of employee attitude surfaced, and there was also some discussion on body language. This prompted me to bring in a couple of articles on this topic to share with the group.

Scenario 5 (10/5/96)

During this session, I reviewed some additional features of MS Office such as pagination, and some additional formatting features. I acted as coach and provided assistance to teams. For instance, I did such things as make an overhead for Kyle and assisted Calin in troubleshooting the printer. Kyle and Calin presented their draft introduction papers to the class. Both students felt comfortable in front of their peers and were open to feedback from them. I noticed a sense of pride on the part of both students after their presentations.

Martin was very helpful in solving the problem with the speed of the computers by demonstrating to the class how to increase the speed of the computers using the "smartdrv" command at the DOS prompt. Students were busy today developing their projects in teams or individually as necessary.

Scenario 6 (10/12/96)

The class was short today, so students worked together or independently without much intervention on my part. I was glad about this, because my son was admitted to the hospital, and I was not really focused on the session today. I was particularly glad that the students were comfortable working with the MS Word and developing their process papers with their peers. Although the session was short and class smaller than usual it was productive.

Scenario 7 (10/19/96)

For lack of a better word today's class was exhilarating for me, and I presume for the students as well. Maybe, I just felt better because my son was home from the hospital and that is indeed part of my feelings of happiness. However, I sensed a high level of community among group members.

In this session, I presented Chapter 6 on Document Design and placed emphasis on students using graphics in their presentations for work, home or school. I demonstrated the use of Excel on the computer by enhancing the graph from page 114 in text. I was unable to use the LCD Panel today because it was down for repairs, so I just gathered the students around one computer and demonstrated how this piece of software worked.

Next, I had planned to have Kyle show the students how he uses Excel in making sales presentations to customers. After Kyle 's demonstration, the class broke into teams and used Excel to create pie and bar charts based on student assignments. I moved around the room guiding the students in their assignments with Kyle assisting when he was finished working with his partner. I noticed again this week that team members were both involved and each prepared at least one chart. This was good, because I did not have to tell them to switch partners. I continued to move around from team to team providing support as needed.

Again today as a student-teacher, I learned how to use the Tool function to customize the Tool Bars. Some students had problems customizing Tool Bars once they installed Windows 95. Kyle demonstrated how he resolved the problem in Windows 95.

I am uncertain if my low profile the prior week had any impact on the dynamics of this class session.

Scenario 8 (10/26/96)

First, I asked students to share their research topics with the group. I thought it was important to get them focused before we were too far into the semester. This too was a lively and interactive session. Some students worked independently and others worked with team members. There was a lot of dialogue and sharing today, particularly by David who was frustrated with his current employer. We discussed employer/employee relationships and David's peers were supportive of him as he vented his feelings. David said, "I am glad I took this course, because it is forcing me to get my resume together." Students felt free to move between groups and provide help to each other as needed. I basically acted as a coach today providing guidance as needed.

Scenario 9 (11/2/96)

Today, I reviewed the requirements for the interview paper. I had the teams evaluate a paper written by a student. Then as a small group we critiqued this paper. Next, I reviewed with the students a copy of an interview paper which I had done and gave them a skeleton of how to summarize their interview findings. In place of a short report, the students would interview a professional and summarize their interview. David

stated that he liked a different format and later brought copies of that format to share with the class.

Scenario 10 (11/9/97)

The goal for today was to help students begin to develop effective letters and memos, Chapters 7/8. I stressed again the importance of prewriting, writing and rewriting. Then, I reviewed the formats for full and modified block letters as well as the correct memo format. Additionally, I discussed modern trends in terms of letter format. For instance, "c" is used instead of "cc" for copy. Also, I reviewed with students how to create Headers/Footers. Some time was spent discussing cover letters and resumes. Martin spoke out and asked who changes all these standards for letter writing and memos anyway. The class laugh at his comments. (Appendix A, Jotting 11/9/96, p. 2)

This was a productive class. As I reflect back on today's class, I believe that "shared intellect" is good. Students appear to learn from each other and enjoy the assignments when working jointly. The classroom is interactive *partly* because of the technology and *partly* because of the team environment. The students appear to be learning from and sharing with each other. Another thing that I have noticed today was lots of intra-group sharing--that is members from various teams went to another team to provide assistance and then returned to their own group.

At this time and after some reflection, I believe that the role of the teacher is critical to establishing the right learning environment. He/she must set the stage for productive learning to occur. Clearly in a collaborative environment the role of an educator shifts to a facilitator. This will only occur when a foundation for learning has

been established by the teacher. Technology and collaboration allow the classroom to be transformed into a community of learners placing the students at the center of the wheel instead of the teacher. I am happy.

Scenario 11 (11/16/96)

Today's objective was to make sure students were comfortable with their research projects. I reviewed Chapters 12 on Research Design and Chapter 13 on Summaries. To make this an interactive session, I prepared a Power Point (PP) presentation addressing the issue of developing a research paper. I reviewed the different types of approaches to take for a research paper. These included: critiquing of an author's work, developing a descriptive paper, comparing/contrasting, preparing a pro or con paper on a selected topic. Next, I asked the students to break into teams and review my presentation from the disk I had prepared for the teams. The purpose was two-fold. to review the research process and to give the students an idea of how they can effectively present information using PP.

After the students reviewed my research lesson in PP, I turned the class over to Kyle Sims. Kyle reviewed three uses of PP in his business--selling a product or service, creating flow charts and designing organizational charts. He reviewed how to create a presentation and use automatic time settings and answered student questions regarding PP.

After Kyle 's presentation the class took a break and came back to create a mock research outline using PP. The student teams developed a topic of their choice and used PP to create the outline. They appeared to enjoy this activity. Steve and Kyle prepared a

funny mock entitled "The Football Widow." The purpose of their presentation was how to convert one's spouse into a football fan. Again, the power of "collaborative technology" was evident in this session. There was a lot of group movement as the teams looked at each other's presentations and gave comments to their peers.

Scenario 12 (11/23/96)

Today students discussed employment-related issues: how to conduct yourself on an interview and how to dress before and after you get the job. Mark shared with the group some interview information on job seeking. As I observed the group today working on their various assignments, I noticed that each student has established a unique but important role in the group. Kyle has emerged as the respected leader of the group. Martin has emerged as the technical and internet guru of the group. Mark has evolved as the Internet expert and Word expert, and Steve as a technical expert. Calin is respected for his knowledge in construction engineering and his communication skills, Adam for his knowledge in construction and David as the sales and CD ROM expert. The student personalities have been emerging as evidenced in the jottings, videos and their interactions with their peers and instructor.

At this session, the class is working hard to meet deadlines. David said "It's hard to get an interview date with busy professionals." (Appendix A, 11/23/96, p. 1) Normally, I would get anxious about students not being right on target, but I understand that these are hard working adults and they will get their projects done.

Scenario 12 (12/7/96)

This was a lively and interactive session--spontaneous groups formed today and intra-group movement occurred. My initial agenda for the day was to have a guest speaker, but he canceled at the last minute because of out of town on business. We spent some time discussing skills employers want in a new hire and discussed the article *The Perfect Candidate* by Dan Kesselring.

Steve was eager to share the success of his job interview with the group and how he prepared for the interview. The group applauded his interview performance and wished him success. We found out later that Steve did get the job and he attributes it partly to how he prepared to present himself at the interview. He shared some of his notes with the class.

Today, Jimmy Miller, Evening and Weekend Administrator for PIT, came to the lab to modify his resume. He was a recent graduate from the college and had taken Technical Writing the previous semester. He said, "I could use some help with this resume." Also, he stated that this class appears to be a fun group and a sharp group of guys (Appendix A; 12/7/96, p. 2) Mark and David immediately provided support and his resume was re-worked.

Today, I had a limited role in the classroom. I did give students a hand-out on a HTML document I created. Mark and Martin led the group discussion on the use of e-mail and the Internet. Both Mark and Martin are very knowledgeable about the Internet.

Again, today spontaneous groups formed and dismantled on an as-needed basis. Students worked independently on their various projects and moved around the room and provided assistance to each other. This was a very busy and productive session.

Scenario 14 12/14/96

During the first part of the class students finalized any projects they needed for their portfolios. The balance of the class was used to allow students to present their research papers. Most of the students presented their reports while peers critiqued their presentations. This was an informal session and students were very relaxed. After the presentations, I told the students that when I get my findings written up I would make a copy available to them if they were interested in having a copy.

This final session ended with everyone wishing each other season's greetings.

DISCUSSION

I approached this research rather naively with no pre-determined learning theories in my conscious mind (Strauss & Corbin, 1994). However, I was not naive enough to believe that I would not bring some biases into this study. I was open to whatever would occur in the context of the learning environment. I used the components of data analysis cited by Miles & Huberman (1994) which included coding, pattern coding and categorizing data to derive the core variable.

Coding

Initially, after each session, I immediately coded my jottings, but further into the study I sometimes had to wait a day or two before I was able to complete my codes. As a researcher/participant, I looked at discrete events as suggested by Strauss & Corbin (1994) and just listed the codes in alphabetical order. I had thirty-seven (37) codes and a total of four hundred and sixty-one (461) entries. Table 1 below depicts these codes. I was fortunate enough to have recorded several of the sessions on video so I could revisit many of the settings. Accompanying this study is a 8-minute segment which I put together to allow my audience to see what transpired in the classroom.

TABLE 1	Jot1	Jot2	Jot3	Jot4	Jot5	Jot6	Jot7	Jot8	Jot9	Jot1	Jot1	Jot1	Jot1	Jot14	
Discrete	9/7/96	9/14/96	9/21/96	9/28/96	10/5/96	10/12/96	10/19/96	10/26/96	11/2/96	11/9/76	11/16/96	11/23/96	12/7/96	12/14/96	**Total**
Aloof				1											1
Apologetic	2									1					3
Cheerful		1	1		1		1	1		1					6
Chuckle	1														1
Concern		1													1
Confident									1						1
Confused	1														1
Distant	1														1
Doubtful				1											1
Eager	3	2	1												6
Focused	2	1	4	2	5	3	4	4	5	7	2	2	3	1	45
Forced Isolation			1												1
Friendly												1	1	1	3
Hesitant		1									1				2
Intra-group Movement/Support				3	1	1	1	1	1		1	1	1	1	12
Individualism			1	1	1	1	1	2	2	2	1	2	2	1	17
Student-to-Student	1	1		1	2	1	1	1	3	6	5	5	9		36
Laughter		1				1	1	2	1	1	5	2	4	1	19
Parallel	2	1													3
Peer Review			2	1	5		6	1	4	4	1	1	4		29
Play	1	1	2		2		4		1	2				5	18
Pride				1	2	3	5	5	2	4	2	3	1	4	32
Query	2	3			1	1	3	2	1	3	1	1			18
Relaxed									1						1
Relief	1														1
Reluctance	2	1		1											4
Sharing	4	5	7	7	6	2	6	7	4	5	5	6	4	8	76
Smile								3	2			1	2		8
Teacher to the Student=ToS	5	6	5	2	2	1	2	1	2	1	2	1	1	1	32
Teacher as a Student=TaS					1	1	1	1	1		1	1	1		8
Student as a Teacher=SaT					1	1	3	1	1	1	1				9
Synthesizing	1	1	1	1	2	2	4	2	1	2	1	1			19
Supportive	1	1	3	4	4	2	3	3	3	4	4	2	3	3	40
Surprise			3												3
Uncertain	1														1
Unfocused				1											1
Unmotivated		1													1
Totals	31	28	31	27	36	20	46	37	36	44	33	30	36	26	461
Students Present	8	10	8	5	7	5	8	7	5	7	6	5	6	6	93

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Coding (continued)

As a new researcher I preceded cautiously to group these codes as showed in Table 2 on the next page. In this process of grouping, I was able to put my codes into nine categories and eliminated the codes Apologetic, Confused, Concern, Relief, Surprise and Uncertain which in my opinion did not have any significant impact on the study. These codes represent the behavioral events in the classroom as perceived by the researcher.

TABLE 2

	Jot1	Jot2	Jot3	Jot4	Jot5	Jot6	Jot7	Jot8	Jot9	Jot10	Jot11	Jot12	Jot13	Jot14	
Discrete	9/7/96	9/14/96	9/21/96	9/28/96	10/5/96	10/12/96	10/19/96	10/26/96	11/2/96	11/9/96	11/16/96	11/23/96	12/7/96	12/14/96	**Total**
Fun															
Cheerful		1	1		1		1	1		1					6
Chuckle	1														1
Eager	3	2	1												6
Laughter		1				1	1	2	1	1	5	2	4	1	19
Play	1	1	2		2		4		1	2				5	18
Relaxed									1						1
Smile								3	2			1	2		8
Friendly												1	1	1	3
Sub-Total															62
Interactive															
Student-to-Student	1	1		1	2	1	1	1	3	6	5	5	9		36
Peer Review			2	1	5		6	1	4	4	1	1	4		29
Supportive	1	1	3	4	4	2	3	3	3	4	4	2	3	3	40
Sharing	4	5	7	7	6	2	6	7	4	5	5	6	4	8	76
Intra-gp/MoveSu				3	1	1	1	1	1		1	1	1	1	12
Sub-Total															193
Focused															
Focused Pairs	2	1	4	2	5	3	4	4	5	7	2	2	3	1	45
Focused Individuals			1	1	1	1	1	2	2	2	1	2	2	1	17
Query	2	3			1	1	3	2	1	3	1	1			18
Synthesizing	1	1	1	1	2	2	4	2	1	2	1	1			19
Sub-Total															99
Affective															
Pride				1	2	3	5	5	2	4	2	3	1	4	32
Confidence									1						1
Disengaged															
Aloof				1											1
Distant	1														1
Doubtful				1											1
Hesitant		1												1	2
Parallel	2	1													3
Reluctance	2	1		1											4
Unfocused				1											1
Unmotivated		1													1
Sub-Total															14
Teacher to the Student=ToS	5	6	5	2	2	1	2	1	2	1	2	1	1	1	32
Forced Isolation			1												1
Teacher as a Student=TaS					1	1	1	1	1		1	1	1		8
Student as Teacher=SaT					1	1	3	1	1	1	1				9
Grand-Totals	26	27	28	27	36	20	46	37	36	43	32	30	36	27	452
Students Present	8	10	8	5	7	5	8	7	5	7	6	5	6	6	93

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Patterns

Huberman and Miles (1994) indicated that after gathering data the codes must be attached to the observations based on the events that occurred in the setting. Therefore, the researcher must begin to analyze carefully the data for patterns of recurring events in the environment. I began reviewing my codes looking for patterns that were replicated during each session. At this time I will give a brief synopsis of how I merged my codes.

Discussion of Codes

I was fortunate to have begun to understand Wheatley's (1994) views on environments and chaos theory, therefore I was not alarmed by the fact that I labeled some jottings slightly different from others, even though they were quite similar in nature. For example, supportive and intra-group movement meant that students were providing support to each other, in the first instance with a team member and in the second with a peer in another team.

Fun

These male students appeared to enjoy the learning environment. On several occasions they made funny remarks. So here I merged the codes Playful, Cheerful and Laughter and Chuckle. Indeed, students were feeling comfortable enough to joke around and make humorous remarks to each other and as well as the teacher. On several occasions during the sessions, the group would assign one student as the "teacher's pet" for the day because of some extra effort on his part. For example, when Dan bought in CD ROMS to share with the group and a playful remark would be made like "Dan is the

"teacher's pet" and gets "brownie points"--laughter would always ensue. Another example was when Mark bought in Typing Tutor because some of his peers stated that they wanted to improve their typing skills. Again, students would say "Mark's trying to get an 'A' today."

Interactive

As reported by (Spaulding, 1991; Johnson, D. & Johnson, R. , 1986) computers often give students more opportunities to interact with and learn from each other. Research has established that learning occurs when students are talking and doing constructive things together. In this context, the researcher merged the terms Supportive and Intra-group Movement/Supportive because students were doing things together on the computer and discussing their projects and ideas. Additionally, I merged the codes Confident and Pride and re-grouped Affective under Interactive. These codes related to students interacting with each other and gaining confidence in their ability levels. For example, Adam felt really good about finally getting an interview with a very busy neighbor and was excited about sharing the outcome with the group which affirmed him. Smith & MacGregor (1994, p. 11) state that "collaborative tasks build connections between learners and ideas and between students and teachers."

Focused

I kept query, focused pairs and synthesizing under the same section, and abandoned the code individual because it made reference to students working independently on a particularly assignment. For example, they may have been working on a draft of their personal resume.

Forced Isolation

I was not ready to dismiss this code before discussing it. While it was not an emerging pattern, I was personally fascinated by what took place in the learning environment. On the third session, I attempted to have students work as individuals to record their behaviors. However they gravitated toward each other for discussion, support and encouragement. Bruffee (1995) states that human relations are the key to welfare, achievement and mastery. This incident re-affirmed that even adult learners depend on each other and learn from each other.

Disengaged

In this instance students were either not willing or ready to participate in teams. They appeared to want to work alone. In one instance, I placed Justin and Hamid together and instead of working together they worked parallel to each other, and I had to encourage them to work together in a more meaningful way. As I examined my data, I was able to merge the codes Aloof, Distant, Hesitant, Parallel and Unmotivated under section.

My analysis of the five categories of codes in Table 2 (page 34) revealed the following patterns which are referenced in Chart 1 below.

Chart 1

Fun	Interactive	Focused	Disengaged
Fun Friendly	Student-to-Student Peer Review Sharing Supportive Affective Enthusiasm	Focused Query Synthesizing	Unfocused Reluctant

Other Codes Exploded from Table 2

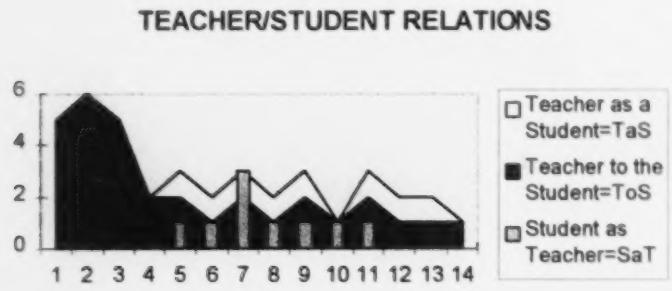
At this point, I wanted to examine the balance of the categories and codes from **Table 2** on page 34. These included Teacher to Student (ToS), Student as Teacher (SaT) and Teacher as Student (TaS), because I believe that these codes are more likely to take place in context of a collaborative environment. While the role of the teacher in a "collaborative technology" shifts his/her role is still important the classroom.

Chart 1

ToS	SaT	TaS	
Instructing Coaching Modeling	Instructing Demonstrating	Learning Observing	

A display of the codes from **Chart 2** reveals what is was happening in this learning environment. Maltese (1991, p. 23) reports that in a cooperative environment "educators develop the climate and construct the framework that encourage students to learn." (p. 23)

Figure 1



As research suggests, educators are needed to develop a blueprint of how the class should function. With a "collaborative technology" paradigm, I felt that I put more effort into designing the direction of the class early in the lesson planning phase. So, one might say that more energies were expended in setting the stage for learning to occur. The reason for this statement is that once the students were comfortable with each other talking, sharing, encouraging, and interacting my role during many of the sessions was one of facilitator. This new role can be more challenging one for educators. (Smith & MacGregor, p. 9). A look at the jottings Appendix (A) will reveal some of the teacher's responsibility in this regard.

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Categories

After clustering the codes, I analyzed them and established distinctive categories. This new categories depicted below exhibit the characteristics of a collaborative learning environment (Johnson & Johnson, 1993). Table 3 reveals many of the characteristics supported by current research on collaboration and technology use in the classroom.

Table 3

Categories	Jot1 9/7/96	Jot2 9/14/96	Jot3 9/21/96	Jot4 9/28/96	Jot5 10/5/96	Jot6 10/12/96	Jot7 10/19/96	Jot8 10/26/96	Jot9 11/2/96	Jot10 11/9/76	Jot11 11/16/96	Jot12 11/23/96	Jot13 12/7/96	Jot14 12/14/96	Total
Social															
Fun	2	2	2	0	2	1	5	2	3	3	5	2	4	6	39
Friendly	0	1	1	0	1	0	1	4	2	1	0	2	3	1	17
Sub-Total	2	3	3	0	3	1	6	6	5	4	5	4	7	7	56
Collaborative															
Student-to-Student	1	1		1	2	1	1	1	3	6	5	5	9		36
Peer Review			2	1	5		6	1	4	4	1	1	4		29
Supportive	1	1	3	7	5	3	4	4	4	4	5	3	4	4	52
Sharing	4	5	7	7	6	2	6	7	4	5	5	6	4	8	76
Affective				1	2	3	5	5	3	4	2	3	1	4	33
Enthusiasm	3	2	1												6
Sub-Total	6	7	12	17	20	9	22	18	18	23	18	18	22	16	232
Cognitive															
Focused Pairs	2	1	4	2	5	3	4	4	5	7	2	2	3	1	45
Query	4	4			1	1	3	2	1	3	1	1			21
Synthesizing	1	1	1	1	2	2	4	2	1	2	1	1			19
Sub-Total	7	6	5	3	8	6	11	8	7	12	4	4	3	1	85
Non-Collaborative															
Reluctance	5	3		1										1	10
Unfocused		1		3											4
Sub-Total	5	4	0	4	0	0	0	0	0	0	0	0	0	1	14
Grand-Totals	43	42	41	48	62	32	78	64	60	78	54	52	64	50	387

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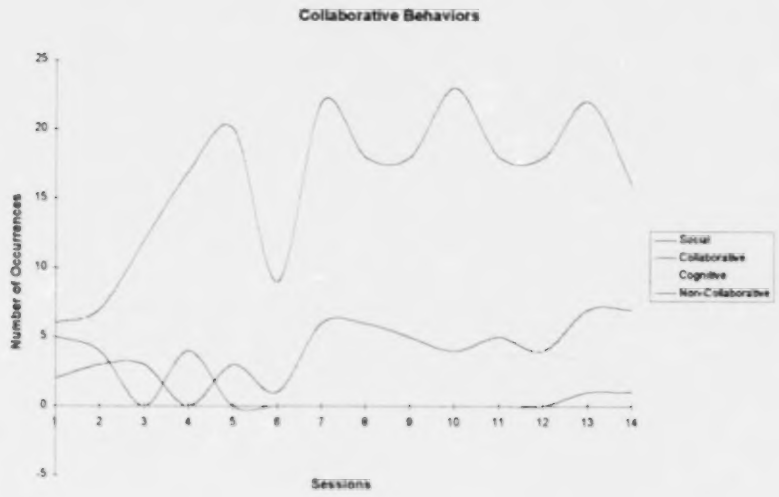
The collaborative behaviors which manifested are depicted in the figure below. In this study non-collaborative behaviors were virtually eliminated from the learning environment.

Figure 2



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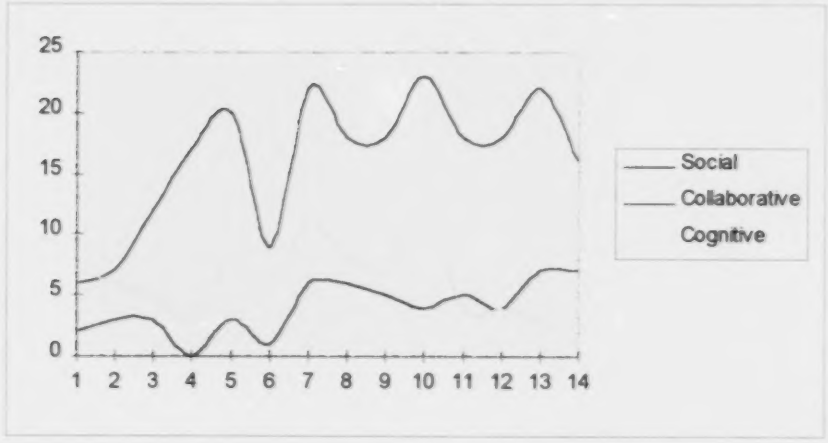
Theoretical Constructs

This study asked what happens when adult learners attempt to improve their writing skills using technology in a team environment. What poignantly emerged was a collaborative environment which was fostered by the use of technology.

Figure 3



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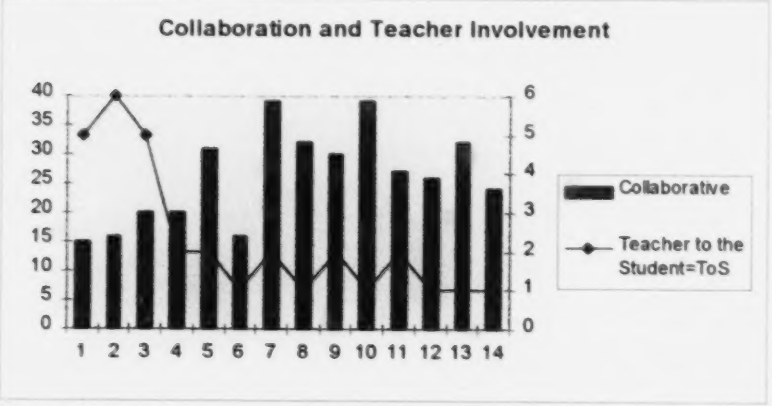
The figure below reveals the core variable of this study. This core included the characteristics that manifest themselves in a collaborative environment (Smith & MacGregor, p. 10). Some of these qualities included a highly social and supportive environment where student interaction and peer review was an on-going process. Indeed, my role in establishing the learning environment was important and as can be see below diminished in many instances to that of a facilitator.

Figure 4



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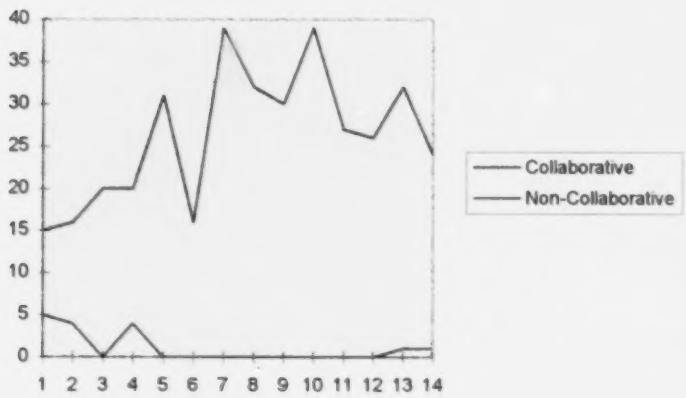
Core Variable

As mentioned earlier, Hutchinson (1988, p. 133) states that the core variable has three essential characteristics" it recurs frequently in the data; it links the data together; and it explains the data". A careful analysis of the data in this study revealed the attributes of a collaborative environment (Johnson & Johnson, 1993). Thus, the core variable which emerged from my analysis valid and reliable.

Figure 5



Summary of Discussion

In collaborative environments (Smith & MacGregor, p. 11) states that:

> Students inevitably encounter difference and must grapple with responding and working with it. Building the capacities for tolerating or resolving differences, for building agreement that honors all the voices in a group, for caring how others are doing" are important.

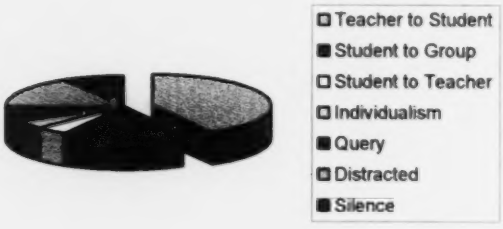
Certainly, one thing that the use of collaboration and technology does is foster team building which allows students to develop communication and interaction skills that students need to be successful in the workplace as well as when pursuing higher academic goals.

The characteristics that were manifested in this study were almost identical to the characteristics that were reported by Johnson and Johnson (1993). Students were able to share identity, receive social support, learn from each other, give feedback, be open/accountable to peers and model outstanding group member.

Validation of Finding: A Comparative Analysis

Since this was my first study, I still wanted to observe a traditional Technical Writing Class at the college and make certain that I was not prejudiced in my observations. First the video of the class supported my observations and second on November 22, 1996 (Appendix E), I visited a traditional Technical Writing class. In this class the students were quiet but appeared to be focused while the teacher lectured using the black board to make her points and then opened the class up for discussion. The instructor called on a the same few students to answer questions she posed to the class. After this dialogue between instructor and students, the class worked independently on revising a memo the instructor had given them. Figure 6 below depicts the environment observed in the traditional classroom. I had the instructor review my jottings from this class and she agreed that what I perceived was correct.

Figure 6



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Validating Findings: Student Surveys and Journal

Comments from Student Journals	About Technical Writing Course
	like informal setting
	allows for high participation
	enables you to evaluate our strengths/weaknesses
	class enjoyable
	educational
	challenging and refreshing
	freedom and openness
	interaction with students and instruction
	brainstorming
	enjoy writing with computers
	communication better with people
	team work; job preparation
Comments from Student Survey	
	input from others in class
	hands on using technology
	technology tools help improve writing
	organize thoughts
	hearing different point of view; feedback
	increased understanding of language
	technology allows you to get ideas down quicker
	good learning experience
	ideas flow in logical manner
	relaxed and pleasurable
	learned to use applications sooner than planned but good
	with technology don't have to worry about erasing and formatting
	allows you to see how classmates work
	focused on doing; hands on; rather than lecture
	grammar improved; technology allowed for greater learning
	generate ideas faster with technology
	get ideas from watching and interacting with others
	feedback from peers
	learned MS office; very useful
	class very positive; hands on
	learned how to work in group format
	technology enhanced writing skills
	technology beneficial in work
	team environment keeps interest
	enhanced communication and computer skills
	generate ideas quicker and better
	technology allows you to stay focus

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Profile on Researcher: A Personal Transformation

As a certified secondary educator, had taught computer technology-related courses for several years, but I had minimal exposure to the collaborative process. I did have a unit on the collaborative learning strategies in my teacher education program at California State University Fullerton, Fullerton, CA in 1990. This exposure to the collaborative process was enlightening and fun. Nonetheless, I had never implemented the collaborative pedagogy in my classes, perhaps because like many other educators, I did not perceive the real value in this model. After being immersed in this environment, the researcher experienced how enriching the environment became for her students, as well as herself. Personally, I did not feel the need to be the guru in the classroom, but could rely on the talents and abilities of my adult students. Secondly, I felt at liberty to say "I do not know the answer to your question, you find the answer and report back to the class." Finally, in this environment, I did not have to embody truth (Ryder, 1994). For example, in our session on careers, Justin asked me about dressing for success for men--I did not know what the dress standards were for men, although I knew them for women. So, I asked the class do to a Web/Library search and present their findings to the class. As a result of this assignment, I learned one thing about men's dress that I did not know i.e., the "power tie" should be worn on an interview. This is a tie which must have some hue of red. Another example occurred during our Employee Unit when Dan challenged the format I suggested for the Interview paper. After some discussion, I agreed that the students did not have to use the format I suggested but a format they felt comfortable using. *These experiences were liberating for me as an instructor.*

After personally experiencing how using both technology and collaboration transformed the learning environment, I am convinced that one of the most *effective* uses of computer technology is when it is germinated in a collaborative environment.

Collaborative Technology: A Look to the Future

The students in this study were a diverse group of male learners (Black, White, and Indian) and they were able to work well together and respect each other's differences. As the workplace becomes more diverse the use of collaboration and technology should be a tool to assist in eliminating mulicultural barriers. A recent study was conducted between California State University Fullerton (CSUF) and Lappenranta University of Technology (LUT) in Finland who together sponsored a virtual classroom. A diverse student population was immersed in a "collaborative technology" learning experience. While socialization was dependent on technology it did occur and students learned the language and culture of their counterparts and were able to develop projects together successfully (Atwong et al. 1996). Now and into the future, educators will be teaching in a global educational arena, therefore they must begin to understand more fully diversity issues as well as worldwide interdependence issues.

I believe the implementation of "collaborative technology" in the classroom is important as we approach the 21st Century. Global education allows students to become involved in the social processes while using technology. In this environment students and educators are able to learn to negotiate and learn the values, language and mores of different international communities of learners. Since technology has placed educators in a global arena, all educators must begin to understand that the future of education is global and recognize the need for worldwide interdependence. These visionaries are beginning to use collaboration and technology in their classrooms.

QUESTIONS FOR THE FUTURE

Several questions emerged since the inception of the study and some of which are still unanswered. For instance, can I attribute the highly supportive environment to "collaborative technology" or did this population of adult male learners adopt what are perceived as feminine qualities in the absence of female presence, as one colleague suggests? (Smith & Smits, 1994) Was the environment "community-like" like because I was dealing with an adult population? Was the environment so social because some of these students had taken classes together before? Maybe this question was really answered by the comparative analysis of the November 22, 1996 class because many of the students in this session were seniors, so some of them were acquainted with each other. However, the environment in the class remained traditional. Can what occurred in my study happen in any grade level? Does the use of collaboration and technology help in resolving diversity issues?

This study can be easily replicated at PIT and some of my questions answered. One reason for this is because the population of adults in the Technical Writing Course consist are often predominantly male. Maybe in the near future, this researcher or someone else will get the opportunity to answer these questions and others that may arise out of this study. For now, I can say that my students and I experienced a ***transformed*** classroom when I used technology and collaboration concurrently.

RECOMMENDATIONS

As PIT and other colleges explore ways to increase retention and expand student enrollment the concurrent use of technology and collaboration is one way of achieving its objectives, while at the same preparing students to be successful in the workplace or in pursuing higher academic goals. While students need strong technical skills which they get at PIT, they also need team building skills to prepare for the world of work or higher academic pursuits. Gruber (1996, p. 8) sums this up by stating:

> Collaborative learning structures used in college classrooms provide organized and systematic choices for varied learning experiences which foster the development of social skills needed for collaboration and communication around academic tasks.

The implementation of the model in this study will help PIT to continue to meet at a few of its goals for its students these include: student retention, job placement, and student matriculation into other colleges or universities.

CONCLUSION

While the use of collaboration and technology in the classroom is not the only pedagogy, I strongly encourage the use of technology and collaborative strategies in the classroom because its has the power to *transform the environment*, *transform the student* and *transform the educator*.

Unfortunately, as mentioned earlier in the Review of the Literature section in this study, few educators use the "collaborative technology" pedagogy and many reasons have already been mentioned for this. While educators do not need to abandon their repertoire of teaching strategies, research confirms that learning environments can benefit from concurrent and appropriate use of computer technology and the collaborative process in the classroom. An analysis of my data depicts how the learning environment, student and teacher are transformed with these pedagogies.

Originally, I was looking at what happens to the learning environment when adult learners are exposed to collaboration and technology and what I found was stated clearly by Watson (1995) who concluded that in a collaborative environment students are able to learn the course material from each other and benefit from peer interaction.

Another issue raised is this study was gender roles. Ryder (1994) suggest that gender roles are constructed and this study suggests that there is some validity to this concept. This group of male adults did not exhibit highly competitive behaviors which are normally attributed to males (Smith & Smits, 1994) but manifested the behaviors which are reported to emerge when collaborative and technology are used in the

classroom. In this study students were able to develop drafts, discuss assignments and review projects, and solicit feedback from peers.

For students to be successful in the classroom, Maltese's (1991, p. 20-22) states that students need "Spaces of Appearance," "Active Engagement" and "Ownership" all of which result in transformed learning environments. The students in this student were given that opportunity.

Indeed, the foundation for an enriched learning environment is still the responsibility of the educator. For this reason, many of the problems concerning the use of technology and collaboration must be addressed and resolved if students are to experience richer learning environments. Certainly, I am not claiming that this model is the only one to be used to enrich the classroom experience for students but I am strongly proposing that this pedagogy could be a valuable tool for the learning and growth potential students.

As we look to the future, the next generation of students entering schools at the primary, secondary and post-secondary levels will bring many personal barriers that could hinder them from being successful in school or the workplace. Also many of these students will not know how to use technology appropriately and effectively. Therefore, we can assume that the traditional lecture format will not engage or sustain their attention. Clearly, more contemporary classrooms must emerge to meet the needs the next generation of students entering our academic institutions.

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APPENDIX A-JOTTINGS

Technical Writing Jottings/Reflections/Observations
September 7, 1996

Number of Occurrences	***Discrete Event***	***Participants***
1	Confused	David, Martin and Steven came to class late; were in wrong room. They explained that a teacher advised them that Room 212 was the room were the class was scheduled, and they were waiting for me to come there. After a 20-minute wait they decided to come to Computer Lab Rm. 209/210 since they knew that was where my last class was scheduled.
2	Apologetic	David was very apologetic for being late with a big smile on his face; Steven and Martin apologized also.
1	Chuckle	Some peers all smile with late arrivals as they tell their "story."
1	Relief	David, Martin and Steven sighed a relief after being advised they would get a review of what they missed.
1	Sharing	Each of the students shared a little about their present jobs and background with the group; Mark noted he was unemployed because of downsizing and looking for gainful employment in his chosen career field.
2	Query	Martin and Kyle asked about grading requirements. Then David said that he travels on business a lot as a sales person and asked if this would impact his grade.
2	Reluctance	A few students, Justin and Hamid; Steve and Calin needed encouragement to work together in teams.
2	Parallel/ Individualism	Two teams continued to worked parallel to each other and began to come together. Then they shared their ideas with each other--Justin and Hamid, Calin and Martin.
1	Uncertain	Martin and Calin asked for projects' deadlines and what would be the final. The teacher said she would get deadlines and more details on projects.
1	Student acts as teacher (SS)	Mark was able to recapture what was covered in first session, and he shared this with students who arrived late.
1	Distant	Hamid appeared curious but somewhat withdrawn.
1	Focused	Mark, Martin and Kyle answered questions that were presented in the lesson via *Power Point*.
1	Eager	Kyle familiar with MS Office. Mark, Calin and Justin said they were excited about learning MS Office. Martin, Steven aware of other word processing packages but expressed interest in learning MS Office. Hamid stated he was only slightly familiar with the program but wanted to learn it.

4	Face-to-Face Interaction	Kyle worked with Mark; Calin and David; Justin and Hamid; Steven and Martin and rewrote sentences in Activity 1 on specifying and quantifying in MS Office. Also worked on Activity 2 eliminating obscure words.
1 1	Synthesizing/ Sharing	Four teams developing/rewriting more concise sentences. Groups shared with each other their revisions of assignment.
1	Focused concentration synthesize	Kyle and Mark were particularly focused; were the first to finish the assignment; began informal discussion while they waited for others.
1	Play	Kyle and Mark finished early so they began making up a funny memo regarding their bosses.
2	Eager	Kyle and David said they wanted to refine writing skills. Kyle expressed that he is required to do a lot of writing on his present job as supervisor and that he is constantly looking for ways to improve his documents.
1	Sharing/Transfer	Calin stated that he wanted to improve his writing and technology skills, namely wants to produce better quality documents and learn more about technology. Justin said at his job he is known as ***"the person who writes to much"*** and wanted to begin to change that image. Kyle said that while he has been writing he is eager to learn new trends in writing and improve his techniques. He said he is unsure of himself at times and said he welcomes feedback and he always has his work partner review his documents.
1	Query	Kyle asked how he should word a particular document for this job. Some interaction among members--"I am pleased to submit this proposal to you" was final resolution among peers. Kyle said he still prefers to write in passive voice; likes to use 'please' and 'thank you' a lot.
1	Sharing/Concern	Calin wanted to be able to learn MS Office and said he is in the field and does not have time to practice new software packages.
1	Teacher-Student TS	Teacher reviewed syllabus with students; answered questions regarding grades and course requirements.
1	TS-Reviewing	Spent portion of time explaining team environment.
1	TS-Demonstration	Presented Chapters 1 and 2 using *Power Point*.
1	TS	Teacher gave students demo of MS Word and how to access and save on program.
1	TS	Provided assistance to students in getting into program and answered questions regarding assignment.

Technical Writing Jottings/Reflections/Observations
September 7, 1996

Reflections

I began the class by reviewing the course syllabus. I told the students that this course had several objectives improve their technical writing skills, develop their communication, enhance their presentation skills with technology, and improve their technical writing skills. In addition, emphasis will be placed on team building during the course.

Next, I asked if there were any questions. The students questioned if there would be a final. I indicated that no final exam would be given, but reiterated that they would be evaluated based on final portfolios. At this point, I reviewed the requirements of the portfolios.

Then, I explained the team process and what would be required of each team member. I stated what I perceived to be team work and most students agreed, since they are working adults. I explained that the research and interview papers would be completed individually.

At this point, to acquaint students with each other, I asked each student to take a few minutes and introduce themselves to their peers. All of the students were two-year engineering students--computer, electrical, civil, drafting/design or mechanical.

I began the first part of my presentation using *Power Point*. I reviewed with them the different types of writing: creative, expressive, expository, persuasive and technical including the purpose and importance of technical writing.

Shortly after my first presentation, 3 additional students arrived (Martin, Steven and David). They had been waiting for me in a different classroom. At that time, I asked for a volunteer to review what we had covered so far. Mark gave the new comers an excellent synopsis, and I let the group take a break before proceeding.

After break, I presented Chapter Two using *Power Point*. We reviewed the writing process: Prewriting, Writing and Re-writing and how a computer can aid in this process. I reminded the students that writing is never perfect and many agreed--should always strive for clear communication. Thereafter, students were assigned to teams to work on their assignments and made their edits on the computer. I floated from team to team giving

advice on use of MS Office, fostering team interaction and input on assignments. Finally, the teams shared their revised assignments with the group.

The computers are slow when loading various software applications. Students noticed this as well.

I concluded the session by asking students to begin thinking about their research projects.

I dominated this session because much time was spent on preliminaries.

Note: I had been considering which class to do my research project on and believe that I will go with this group of male adults because they appear to be an eager and friendly group.

Expanded Observations

- This is a diverse group of all male students (1 Indian, 3 Black and 4 White males).
- The concept of team work seems to be acceptable to most students. A few students expressed concern about differences in where they live and job schedules.
- Most students have used some form of Word Processing Package but many were unfamiliar with MS Office.
- Group appeared to be focused and interested in learning to use new technology, as well as improve their communication abilities.
- The students appear be friendly and cooperative.

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Technical Writing Jottings/Reflections/Observations
September 14, 1996

Number of Occurrences	***Discrete Event***	***Participants***
1	Cheerful	Kyle arrived first; grin on face and light hearted; greeted teacher.
1	Concern	David concerned about research paper; had several questions regarding topic, length, etc.
1	Unmotivated	Sandra a new student to the class arrived late. She had a look of indifference and expressed that she had taken this class before but had to drop the course.
1	Reluctant	Sandra was hesitant to do the typing in the team; but acquiesced; she took keyboard that was parked partially on desk and Steve's lap and started typing their revised assignment.
1	Parallel/ Individualism	Justin and Hamid began to do their own work; separately--needed encouragement to support each other.
1	Hesitancy	Hamid relatively quiet, appears unsure of himself.
1	Eager	Students were eager to learn and use technology; Calin said he was excited that technology was incorporated into course, because his job keeps him in the field and he cannot use the computer as often as he would like to.
2	Sharing	Kyle brought in letters written from his job. Students looked at them. There was discussion by the group as to many of the documents on their jobs that are poorly written. The group agreed that they have all seen some poorly written letters.
2	Query	Martin with mixed expression on his face questioned if others in the work force really paid any serious attention to or are even aware of correct usage of English language. He said, "are grammar rules and usage really that important." Steve reared back in chair in agreement with him; questioning look on face. Kyle and Calin said a **'resounding yes!'**--it certainly does.
2	Sharing/ Openness	Calin expressed appreciation for what he learned from a previous English teacher who gave him a lot of constructive criticism about his writing. Kyle wanted to discuss a negative experience with a teacher who he had in college.
2	Sharing Dialogue	There was a lengthy discussion regarding gender free correspondence. Kyle and a few other students still had a problem with having to use "his" or "her"; "he" or "she"; most of the group understood the rationale behind the change--some felt it was necessary to be 'Politically' correct.
1	Student -to- Student Interaction	Calin and Adam, Justin and Hamid, Mark and Kyle, Martin and David, Steve and Sandra worked on class assignment.

1 1	Synthesize/ Sharing/ Focused	Each team worked on assignments to rewrite sentences and revised them to make them gender free; teams shared their revisions with group.
1 1	Sharing/ Laughter	Martin raised the issue about the little boy being suspended for kissing his First Grade classmate; some of group thought our society was taking things to far regarding sexual issues.
1	Sharing	Kyle, Calin and David linked class topic to their work environment. Kyle reiterated the importance of writing on the job and said that employees are judged by how they write.
1	Query	Kyle questioned purpose of readability chart in MS Office. Any validity to it; chart reviewed with the group.
1	Focused Concentration	Mark and Kyle finished their assignment first.
1	Play	Mark and Kyle joked around on computer while waiting for other students.
1	Eager	Calin, Justin, Steve and Hamid were somewhat anxious about their lack of knowledge of MS Office yet excited to develop more skills.
1	Teacher to Student= ToS	I reviewed Chapters 3 and 4 using Power Point. Students were allowed to interact with the lesson. For instance, I had questions they could answer in the presentation regarding the content.
1	Teacher to Student=ToS	I reviewed the Fog Reading index with students and answered questions.
1	Teacher to Student=ToS	I demonstrated some additional features in MS Word such as Printing and Tools.
1	TS	Provided support and direction to teams.
1	TS	Distributed research package and asked students to begin thinking about their final projects. I explained briefly the research process and discussed the importance of students narrowing a topic and getting an early start. Word of advice--Don't Delay!
1	TS	Discussed with students the importance of the writing process: reading, writing, listening, speaking and presentation. Also, I reiterated the importance of the correct use of the English language to the class--I stressed this to the minority students who did not fully understand the importance of correct usage in a business setting.

Technical Writing Jottings/Reflections/Observations
September 14, 1996

Reflections

Today, I greeted all the students and apologized for not having project deadline list ready and promised to have it by next week. After that, I used Power Point to present Chapter 3 which focused on the key concepts regarding objectives of technical writing: clarity, conciseness, accessibility and accuracy. Also, I reviewed discussed the Fog Reading Level.

After a brief break, I presented Chapter 4 to the group. This chapter focused on types of audience and discussed sexist language and audience involvement. The students in general were concerned that to much emphasis is being placed on sexual related language in the workplace. Kyle expressed that he did not see a need to make such an issue of gender free language but indicated that this past week there was a debate at work about this issue. He feels that he is now better equipped to deal with sexual language in his writing at work and understand the trends regarding gender free language. In general, the group agreed with him--I wondered about this--probably because this is a predominantly male class. In any case, the class's response to sexual language inspired me to bring some additional material in on gender differences and sexual related issues.

After my presentation, students got into assigned teams and my role was to provide support to the teams on use of MS Office and give input on progress.

A few students still appeared to be somewhat apprehensive, but once they started on their team assignments they began to relax and became involved in the learning process--I had to encourage Justin and Hamid's team.

Overall the class was productive today and team members appeared supportive of one another. My role at this point was to provide support to groups as needed. After students completed their activities we reviewed finished documents. Students felt comfortable taking criticism from other teams.

Technical Writing Jottings/Reflections/Observations
September 14, 1996

Today, Sandra and Adam were new additions to the class. Adam brought in his drop add slip, but Sandra said she did not have one. She indicated that she would stop in the Admission's Office and pick up the slip by next week.

I wondered to myself why Martin and Steve did not see the significance of correct English and writing styles--this troubled me. I discussed this with my spouse and with an additional person I met in Borders' Books. My spouse said that in many instances minorities have their own language and feel it is appropriate. It is a difficult process to translate from 'Black English' to standard English.

Note: I mentioned to class that I plan to use this course to do my research project for school and will be using a video camera. The students had no objections to this.

Technical Writing Jottings/Reflections/Observations
September 14, 1996

Expanded Observation

- Both Sandra and Adam were new to class today. (1 female, 1 Indian, 4 Black males, 4 White males)
- The minority students didn't see the importance of putting so much emphasis on writing skills
- Good rapport students worked well together
- Sandra expressed that she dropped this course before and took a TBA but never completed the coursework. (TBA=student can take an independent study)
- Overall students were supportive and encouraging of one another
- Students in good spirits and enjoyed working with technology
- Teams applied learned material to assigned projects
- Cooperation higher than last week

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Technical Writing Jottings/Reflections/Observations
September 21, 1996

Number of Occurrences	***Discrete Event***	***Participants***
3	Surprise	Calin stopped at doorway held one hand up, Martin looked around as he came in, Steve just had a smirk on this face. Students in general were puzzled as to what happened to the computers.
1	Sharing	Students appeared quite relaxed and one student, Calin, brought a Concert series to share with class--Appel Farm Arts & Music Center. Also, brought in a grammar handbook had he uses and feels it is good.
1	Eager	Calin, in particular, said he wanted to learn to use the MS Office package, and he would be disappointed if he could not use the technology.
1	Helpful/ Supportive	Martin asked Kyle for assistance on his resume and he gave him some input. In general, students were friendly and began providing assistance to each other.
1 1	Focused concentration/ Individualism	All students participated in Pretest Review of Grammar.
1 1	Sharing Peer Review	Then Kyle distributed some writing examples from his job and stated that he sees the importance of good writing. Also, he said companies and businesses view you by the way you present yourself in writing and speaking skills.
1	Supportive Sharing	Students asked to write about a positive and negative experience. Again, independent work encouraged at this point. Steve could not think of any positive or negative classroom/training experience. Kyle, Martin and Calin began to share their experiences which sparked Steve's memory. He wrote about a negative experience from the first grade.
1	Sharing	Steve shared how he was accused of cheating on a first grade math test. Most of the students experiences were positive.
1 1	Synthesize Sharing	Students were asked to write a set of instructions for operating the overhead in the classroom. Students began sharing their ideas with each other; although I had asked them to work independently.
3	Focused Movement	Calin got up and examined the overhead; Martin did the same, so did Kyle. The students were out of their seats several times to get name, model, etc. of the overhead. Martin shared that this exercise helped him under stand how to write a process or instruction paper better.
2	Supportive/ non-competitive	Kyle, Calin, Steve, Martin very eager to share their ideas on how to develop an overhead process paper and support their peers.
1	Peer Review	Students were comfortable sharing their assignments and did not mind corrections; Calin felt free to make suggestions for improvement of classmates' assignments; no one objected.
1	Sharing/ Dialogue	Calin had a question about two words which his company is a stickler about--***"compliance as opposed to conformance."*** He said his employers insist on using the word compliance in their documents. Kyle pulled out his electronic dictionary/thesaurus and class discussed meaning of two terms. Martin also used his electronic dictionary to look-up the meaning of these two words.
2	Play	Kyle and Calin joked in front of camera--waved hands and made remarks about video. Calin said, "are we being taped." Kyle said, "Ms. Hill is a great teacher" while video

		was off; students laugh.
1	Cheerful	Mark, Kyle, Martin, Steve, in fact most of the students' smiles and gestures indicating that the students were happy to be present.
1	Supportive/ Non-competitive	Kyle, Martin, Calin, Adam and other students were not contending to have the best projects but each threw out ideas to one another on how to make their process paper better.
1	Teacher to Student=ToS	Review of project deadlines.
1	ToS	Reviewed Chapter 11 which discussed process/instruction paper.
1	ToS	Give grammar quiz and reviewed results.
1	ToS	Provided guidance on developing process design.
1	TS	Discussed resume and job search package.

Technical Writing Jottings/Reflections/Observations
September 21, 1996

Reflections

First order of business was to give the students the project deadline dates and answer any questions. The students were glad to receive the schedule of dates and said would it help to them stay focused. Also, I gave them a package on job search strategies and suggested to them to develop their topic as soon as possible.

Then they completed the grammar review quiz. I used this to help me assess students' grammar skills. Most of the students scored average. Steve and Martin confessed that they did not score very high.

After the grammar quiz, I asked students to write about a negative and a positive experience. Some of the students quickly came up with ideas; others were not so quick. Martin shared his experience and this helped Adam and Steve to remember something that happened to them in school.

Next, I reviewed Chapter 11 which focused on Writing Instructions and User's Manuals. Then I reviewed the criteria for writing effective instructions. We discussed the issues of audience and the importance of the using the writing process: prewriting, writing and rewriting whenever you write.

At the end of our discussion, I asked students to independently write instructions on how to operate the overhead projector that was at the end of the table. The goal was to consider their audience, details they needed to include and how they would organize their prewrite. However, to my surprise the students consulted with each other--giving each another ideas on design and process, as well as how to draw the overhead projector. I felt a little out of control, because this was not what I had planned to happen, but I did not stop the interaction because this action was good. Here, my original my goal was to observe how the students would work independently, but I was unable to accomplish this because of student's behavior.

Next, I reviewed Chapter 18 which was on grammar, punctuation, mechanics and spelling. I reiterated the importance of presenting quality work, because your work represents you and your company. I did not spend an inordinate amount of time on this chapter, but assigned homework assignments for the class to complete.

Technical Writing Jottings/Reflections/Observations
September 21, 1996

Observations

- Sandra absent today--I have some concerns about her; David absent out of town on business; Hamid absent
- Students appeared concerned that computers were gone but calmed down after I told them that the computers would be back next week
- Students found that sample portfolios I brought in were helpful to them
- Friendly group of males who appear supportive
- Students appeared relieved to have a detailed schedule of project due dates
- Male students did not appear inhibited in the classroom environment and were willing to expose themselves to critique by peers
- Environment non-competitive

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Technical Writing Jottings/Reflections/Observations
September 28, 1996

Number of Occurrences	***Discrete Event***	***Participants***
1	Sharing	Calin and Kyle arrived early and discussed informally some non-related work issues.
1	Helpful/Supportive	Kyle spent several minutes attempting to fix the printer.
1	Aloof	Adam seemed not with it today; not prepared for class; sitting in chair backwards; facing computer; chewing gum.
1	Unfocused	Sandra missed last week; unprepared today; unfocused; unsure of how to proceed.
2	Student-to-Student Supportive	Calin spent a large block of time helping Adam generate ideas on how to develop his introduction paper. Kyle spent a good portion of time also giving guidance to Sandra.
1 1	Supportive Focused Synthesize	Kyle started keying in Sandra's ideas; after a period of time he then encouraged her to switch places at the keyboard and continue to develop her introduction.
1 1	Sharing Peer Review Pride	Calin shared a draft of his introduction with group and received feedback from peers regarding his introduction. He exhibited pride in his work. Kyle also shared that he was happy with progress he had made thus far.
1 1	Focused Individualism	Justin began developing his introduction paper; much more focused today.
1 1	Sharing/Laughter	Justin shared with the group that he wanted to buy a **"jersey"** so he had not yet invested in the new book. He said he had access to the old text for this course and planned to use it. However, he now realizes that he should get the text. Students laugh a Justin's comments about wanting the **'jersey.'**
1	Sharing	Kyle noted that as a hiring supervisor using the correct written language, as well as the spookily, is important to employers. He indicated that his company will often have a candidate write a piece of correspondence at the initial interview in order to test a prospective candidate's communication abilities.
2	Inter-group support	Kyle and Calin encouraged Adam and Sandra to begin putting their ideas down on monitor.
1	Reluctance/ Inadequacy	Sandra demonstrates low-self esteem--lacks self-confidence. She SaT for a few minutes in the class, with her one hand on her face and with a distant look. Kyle began attempting to encourage her.
1 1	Doubtful/Negative Sharing	Sandra stated that the reason why employers will not hire her is because of her age, sex and lack of experience.
1	Sharing/Dialogue	Kyle generated a discussion on ***"body language"***; the group discussed the importance of being positive; Kyle pointed out to Sandra that she has lots of good qualities and must look for the positives.
1	Sharing/ Openness	Students were honest about their feelings especially Sandra who was very expressive about how she feels and Kyle was candid about his assessment of Sandra who appeared to receive his comments okay.
1	Supportive/ Encouraging	Kyle told Sandra that she needs to work on her attitude if she wants to obtain employment because when he interview candidates he consider their attitude when making a hiring decision.
1	Intra-group support	Kyle noticed Calin needed help with printing a job and got up and helped him. Then he returned to original team.
1	Teacher-Student=ToS	Coach and assistance provided to groups as needed
1	ToS	Reviewed additional features in MS Word application.

Technical Writing Jottings/Reflections/Observations
September 28, 1996

Reflections

I did not present a new topic today. My role was to provide support to the teams and Justin who did not have a partner, because of class size.

Again, I gave guidance on how to use various MS tools and for Marking features. Most students appear to be enjoy learning and working with this word processing application.

Today, students were asked to work in teams to review and develop their introduction papers. I indicated that their introductions would be helpful to them as they prepare to enter the job market and indicated it would be a good idea to memorize the content.

When it was time to get into teams, I realized that Adam and Sandra were unprepared for class because they did not bring in their draft introduction papers. I did inform them that it is their responsibility to come to class prepared. Once in teams, the students had the opportunity to review members draft introduction and get ideas for developing or refining their paper.

After some time during the class, the issue of attitude was raised by Kyle. As a group, we discussed the importance of body language; affirming it is not only what you say but how you say it that Markers. Kyle pointed out that interviewers are trained to read your body language, and that this reveals more to them that what you actually say. To support our discussion, Calin shared with the group how he prepared for his current job and shared that he was very positive on his interview. He believes this factor was one of the primary reasons he received his job.

Towards the end of class, I spent some time with Sandra and attempted to encouraged her to look at her positive qualities such as her determination to succeed against obstacles, her attendance at three different training programs simultaneously and her academic training. She insisted that she is has not received a job because of her age and that fact that she is a female. I pointed out that one's attitude is important when applying for a job, as well as one's ability. I am not sure my remarks really penetrated her mind. Also, at end of class I spoke individually with Adam and encouraged him to come prepared to class. He said he would try.

Something new I noticed today was what I refer to as intra-group movement--that is students felt comfortable leaving their team assisting another team or person and then returning to original team.

Technical Writing Jottings/Reflections/Observations
September 28, 1996

Observations

- Several students absent (David--business), (Mark-family illness), (Steve-personal) (Martin--business), (Hamid--TBA could not stay for class today),
- Students used technology to continue to develop or begin developing their introduction pieces
- Students appear comfortable in learning environment and atmosphere friendly
- Sandra and Adam unprepared but were held tremendously by their peers
- Kyle and Calin were extremely supportive and encouraging of their team mates
- I noticed what I refer to as intra-group movement; students felt comfortable moving between groups

**Hamid informed me this week he will take a TBA because of his job schedule; maybe able to attend some additional Saturday classes but not many. He will do the course independently because his job requires that he work on Saturdays.*

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Technical Writing Jottings/Reflections/Observations
October 5, 1996

Number of Occurrences	***Discrete Event***	***Participants***
1	Cheerful Friendly	Calin arrived early greeted teacher with hat tipped and smile; Kyle arrived next greeting everyone present.
1	Playful	David teased by group today.
2	Sharing	Kyle noted that he uses reference manuals all the time at work. He also said, "I always have a colleague check my work."
1	Focused	Students looked at Chris's reference manual as well as others such as the *Pocket Style Manual by Diana Hacker* brought in by the teacher.
1	Sharing	Kyle brought in a proposal he generated at Tustin and shared it with group. He requested feedback back on improvements from the students and they gave feedback to Kyle.
1	Sharing/Dialogue	Calin stated his company has recently hired a full time consultant to evaluate all major written documents that include: proposals, policies, procedures and handbooks, etc. There was discussion on how important effective writing is to company's image.
3 1	Peer Review Focused	David, Calin and Kyle reviewed and made constructive comments their projects.
1	Sharing/Concern	Students said--teacher agreed--computers are too slow.
1 1	Focused/Student as Teacher=SaT Teacher as Student=TaS Synthesize	Martin demonstrated to the group how to speed up their computers by typing at the c:\ prompt '**smartdrv /s.**' This starts the cache on computers. He stated that the computers are not configured correctly, hence the reason for the delays in loading programs--students were able to put his suggestion into immediate use and get faster speeds.
2	Supportive	Paper jammed in printer; Kyle and David on separate occasions tried to help solve the problem.
1	Student-to-Student Focused/Synthesize	Martin and Justin worked together continuing to write their process paper.
1	Individualism	Calin, David and Kyle worked individually today on developing their process projects.
1	Supportive	Calin had trouble printing his final introductory statement and David help with formatting; reviewed Page Setup and margins to solve problem.
1	Intra-group support	Students felt free to move from one group to another to give assistance to their peers. Calin assisted by David and then by Kyle.
1	Peer Review Supportive	David gave Justin input on his introduction letter and made a few suggestions to him.
1	Play	Peers teased Kyle and said "he is the teacher's Pet" because he brought in his binder for his final portfolio.
1	Query	Calin, Kyle and Martin questioned what specifically was required for their research projects.
1	Focused Student-to-Student	Martin assisted Justin with his introduction.
1	Focused	Martin and David really intent on getting letter completed.

2	Presentation	Kyle and Calin shared their introductory letters with group; members made some suggestions but agreed that overall letters were fine. Kyle used overhead; Calin just read his because of printing problem.
2	Pride	Kyle said he felt good about the progress in his writings. Calin presented and displayed a sense of accomplishment as well.
1	Peer Review/ Feedback	Calin made a suggestion on Ken's introduction; group thought Chris's introduction was pretty good. In fact, Kyle said he got an idea from Kyle to improve his introduction letter.
1	Teacher to Student	Provided assistance to teams on as an needed basis
1	Teacher to Student	Demo MS features such as pagination and formatting page.

Technical Writing Jottings/Reflections/Observations
October 5, 1996

Reflections

Today, I demonstrated how to create pagination and some additional page formatting features. I acted as coach and provided assistance to teams on an as needed basis. I did such things as make an overhead for Kyle, so he could present his introductory statement to the class and

assisted Calin in troubleshooting the printer.

Next, I mentioned that the school has 10 new computers for the lab. Martin said that the college does not really new computers but more printers. He stated that re-configuration would solve some of the slowness of the computers.

I also advised the class that lab is not networked, but that the school does have access to the NET via the Library's account and is planning to get an additional account for college's general use.

Martin was very helpful in solving our problem with speed by demonstrating the class how to increase the speed of the computers using the smartdrv command at the DOS prompt.

Kyle presented his introduction to the class and Calin did also. Both students felt comfortable in front of their peers and were open to suggestion for improvement to their letters.

I had an opportunity to assist Hamid independent of class with his writing. I must admit that I did not really feel qualified to assist an ESL student, but Hamid is a bright young individual and seems to be making progress in his writing abilities. After realizing that Hamid was an ESL students and having 2 more ESL students in another Basic English Class, I recommended to the Chair of the English Department that PIT investigate teaching ESL as a Second Language. Also, I got some ESL books from a friend whom teachers ESL and recommended that these students use them.

Technical Writing Jottings/Reflections/Observations
October 5, 1996

Observations

- Sandra absent today, Hamid TBA, Adam absent today
- Pleasant and cheerful today
- Friendly; lots of joking around
- Productive day
- Students willing to share ideas and opinions with each other
- Students are on-competitive and supportive of one another
- Student appeared relaxed; lots of sharing of knowledge with teach other; especially technology

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Technical Writing Jottings/Reflections/Observations
October 12, 1996

Number of Occurrences	*Discrete Event*	*Participants*
1	Student as Teacher=SaT Teacher as Student=Tas Sharing Focused	Martin shared with the group how to create an autobatch file which would allow you to access Windows faster. This is an alternative to using the smartdrv command. Group watched Martin carefully, including instructor.
2	Intra-group support	Martin went from team to team and demonstrated how to create the file; Calin and Martin worked on MS Word problem.
2	Laughter	Calin and moved around in front of camera when I turned it off making remarks about grades.
1	Student-to-student Independence	Students came to class and got right with team members.
1	Supportive	Calin helped with printer; loaded paper.
1	Focused	Class worked on process papers in teams or individually.
1	Query	Students had questions about documents at work; Martin in particular had a questioned about a business related document he is generated
1	Pride	Martin and Steve exhibited pride in their process project. They said they just needed a few more graphics and they would be finish.
1	Job Sharing	Calin updated the group on the status of the Writing Consultant at his job. He said she is meeting with managers and will be going from department to department; she high paid.
1	ToS	Allowed students time to review process papers of other students.
1	ToS	Discussed research focus.

Technical Writing Jottings/Reflections/Observations
October 12, 1996

Reflections

I find this course much easier to present than other courses I am teaching, even though I use technology in many of them. I am beginning to believe that cooperative learning changes the flavor of the classroom. I have never used this approach before, although I have been in classes where it has been used from time to time and I learned about it in my teacher training program at California State Fullerton University and liked it.

I am learning with using a cooperative model, I do not have to do everything and know everything. May its because I am teaching adults. But this can't be true, because I have taught adults before and felt more like I am on stage performing. In this course, I feel that I am a student and teacher because I learn something new from my students each class.

Today, I provided minimal assistance to class and was glad that the class was not demanding. I am glad the students are able to draw on each other and not just me. The group dynamics groups were the same as in previous week, even though several students were absent for various reasons.

Next, I allowed students to review process papers of some previous classes and this generated some discussion. I indicated that students must remember to consider their audience and remember that content as well as format is important in their final product.

I reminded students that should be developing their research projects and pulling together reference material--don't wait until the last minute.

Observations

- *There are now eight students in the group, instead of 10.*
- *The class is small today. Hamid and Sonya are not longer with the group.*
- *I learned from the office the Sandra never really officially registered in the course.*
- *Kyle and David absent today because of business. Matt's father still critically ill.*
- *Present--Calin, Martin, Steve, Justin, Adam*

Technical Writing Jottings/Reflections/Observations
October 12, 1996

- *Pleasant and friendly.*
- *Eager to share ideas and lend support to group members.*
- *Students moved around the room and helped each other.*
- *Class has almost become community-like.*

Technical Writing Jottings/Reflections/Observations
October 19, 1996

Number of Occurrences	*Discrete Event*	*Participants*
3	Playful/ Jesting	Martin joked around at camera; students said Kyle was brown nosing teacher because he had his binder; David also because he brought in flyers from work.
1 1	Sharing Laugh	David brought material in from Job to share with class; explained the class what his company sells and how he gets to seat in First Class--flirts with airline staff; group laughter
1	Student as Teacher=SaT	Kyle brought laptop in and demonstrated ease of use to students. Kyle said he wanted speed, so he brought laptop--owned by company.
1	Play/ Teasing	Students teased Kyle again as teacher's pet because he brought in his personal computer.
1 1 1	Student as Teacher=SaT Sharing Focused	Kyle demonstrated to the group including teacher how to install grammar after installing Windows 95.
3	Peer Review	Kyle reviewed David's process paper and gave him feedback; David reviewed Kyle's process paper and suggested that he include more pictures. Kyle reviewed Martin and Adam's Chart--gave some guidance.
2	Individualism Focused	Martin and Mark worked on process project; Kyle and David worked on process papers individually.
2	Query	Students wanted clarification on interview papers; received input on questions to ask.
3	Focused Movement	Students felt free to move between groups; Martin, Kyle, David were active in this process today.
1 1	Teacher to Student=ToS Supportive	Teacher coached students in use of Excel; Kyle most experienced and assisted teams along with teacher.
1 1	Student as Teacher=SaT Focused	Kyle demonstrated how he uses Excel in his presentations at work and how he uses it to help him obtain contacts. He noted that he got a big contract with Mars recently with the help of PP.
1	Supportive	Kyle along with instructor assisted group in development their Excel assignment.
1	Focused Movement	Students felt free to move from one group to next; Justin and Hamid worked together well no movement on their part.
1 1	Sharing Supportive	Members of team willing to share their knowledge and experiences, as well as work with each other freely.
1	Laughter	Several occurrences of laughter; Adam and Martin laugh at with each other as they create charts in Excel.
4	Synthesize Pride	Five Teams were able to create pie chart and bar table with Excel. Each groups was excited and felt good of their accomplishments.
4 1 1	Student-to-Student Focused Sharing	Martin and Mark; Kyle and David, Justin and Hamid; Martin and Adam on creating table. Martin said he could use this in his business; David said tables would help him in his presentations at work.
1	Query	Kyle questioned if a paper on Psychology and Human Interactions was okay for a research paper. He wants to do this since he supervises people and wants to be able to apply what he learns in this process at work.
2	Sharing	Students excited about new program; David shared how Excel can be used directly at his work--technical presentations; Martin in his business.
3 1	Peer Review Pride	Kyle evaluated David's work; Martin's Mark work; Martin made comments on Adam's. All peers felt good about their progress today.
1	Teacher to Student=ToS	Demonstrated Chapter 6 Presentation of data with the use of Excel

Technical Writing Jottings/Reflections/Observations
October 19, 1996

Reflections

For lack of a better word today's class for exhilarating for me, and I presume for the students as well. Maybe, I just felt better because my son is home from the hospital and that is indeed, part of my feelings of happiness. However, I sense a level of community in the group. I later thought to myself that I should have gotten a journal from students--but next time.

First, I presented the Chapter 6 on using graphics in your presentations for work, home or school. I demonstrated the use of Excel on the computer (Exhibit 7.1) which was enhanced and compared it with graph on page 114 from the text. I was unable to use the LCD today because it was down for repairs.

Most of the students were not familiar with Excel, but some had used other forms of spreadsheet application in the past. Kyle was the most experienced user of Excel, in fact he brought in his personal laptop and demonstrated to the class how he uses Excel in his reports at work.

Next, after Kyle's demonstration the class broke into teams and used Excel to create several pie and bar charts from assigned activity.

After Kyle's presentation, Kyle and I wondered around the room as a coach and Kyle and we provided attendance to each group. I noted again this week, that students in teams prepared one chart and then allowed the other member to prepare bar chart. This was good, because I did not have to tell them to do this.

Again today as a student and a teacher, I learned how to insert icons or restore missing features from tool bar such a spell check with the Tools Customize button. Some students had problems with this when loading Windows 95 and Kyle demonstrated how he resolved the problem.

Discussed with Mark individually what has transpired in class during weeks he missed. He shared with me some personal family matters. He was very eager to make up any missed work.

Hamid was able to get off work and come to class today. He wanted some additional comments on introductory paper and desired additional support. I told him I would be available and tutoring is also available at the college.

Technical Writing Jottings/Reflections/Observations
October 19, 1996

Observations

- Climate relaxed; happy group of males
- Groups (David and Kyle; Adam and Martin; Mark and Martin, Justin and Hamid; Mark arrived late personal issues)
- Students excited to be able to create bar and pie graphs in MS Word
- Group see Excel as a powerful way to present their ideas work
- Group has developed a sense of community
- Supportive and encouraging
- Sharing of ideas and projects
- Continue to tease and joke around
- Students felt free to move around room and look at each other graphs

Diversity is no apparent barrier in classroom; students interact regardless of race or levels of ability

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Technical Writing Jottings/Observations/Reflections
October 26,1996

Number of Occurrences	*Discrete Event*	*Participants*
1	Friendly/ Cheerful/Sharing	Kyle enters with raised grin on face; Mailon comes in 2nd; both students arrived early. Mailon enters and removes black cap from his head. The two students begin to share and discuss ideas with each other.
1	Smile	Arthur arrives late; came in with raised eyebrows and a quiet smile and greeting everyone.
1	Grin	Justin also arrives a few minutes later today quietly enters room and takes seat at computer.
1	Smiling	David enters room with big smile said "hello everyone."
1	Individualism/ Focused	Students wrote journals reflecting on this class; course work at PIT.
1	Teasing Laughter	David selected as **'teacher's pet'** today by group; because he brought in his portfolio binder with colored tabs.
1 1	Focused Individualism	Arthur and Justin worked independently on their process paper. Mark arrived late and worked on his process project was given assistance by peers. David and Mailon both gave him ideas on graphics for his project. David said that some CD ROM's have nice graphics. Mailon noted that the Internet has great free clip art.
1 1 1 1	Student-to-Student; Peer Review Supportive Pride	Kyle and David reviewed and gave feedback to each other regarding their process projects. Kyle made a comment that David's portfolio looks good including 3 reference letters. David took this as a compliment and smiled.
2	Query	Mailon questioned if students would be penalized if they turned in process papers late. He stated that he did not feel his team would be late but wanted to make sure there would be no penalties for a late project. He also had a question regarding his research project--Topic Business and the Net.
1 1	Intra-group movement Supportive	Kyle moved to Mailon and Steve's group; David helped with Mark with his process project. Students provided assistance to each other as needed.
1 1 1	Focused Teacher as Student=TaS Student as Teacher=SaT	Mailon and Kyle worked together to solve Microsoft Word Art Feature. They showed teacher and peers the benefits of this feature such as bending words. Some of the students used this feature in their projects. Teacher had not used this feature before.
1 1	Sharing/Dialogue Pride	David wanted to vent his frustration to the group about his employer who gave him an excellent review; but only a 1% increase, because he has reached his maximum salary. He said that incident has motivated him even more to begin pursue employment elsewhere. He is very annoyed with his company at the present time. He did state he got three excellent references and shared them with group including his military certifications which he plans to include in his portfolio.
1	Laughter	Kyle and David stated "will we get a good grade if we write the journals." Then their was laughter among group member.

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Technical Writing Jottings/Observations/Reflections
October 26,1996

1 1	Student-to-Student TaS	Kyle showed Mailon and group including the teacher how to solve a paragraph formatting problem in MS Word.
1	Sharing	Kyle shared with group about an employee who recently resigned and said he would bring in the bad letter the employee wrote. The employee is a good technician but has poor writing abilities. Kyle said he talked the employee out of leaving.
1	Sharing	Kyle, Mailon and David discussed issues regarding the job market.
1	Sharing	David said he could get CD ROM drives at a good rate for anyone.
2	Pride	Justin and Matt excited and happy about getting projects up-to-date. Arthur seemed more about his progress as well.
1	Joking Laughter	David and Kyle made remarks regarding PIT's technology. David said, "I hope the camera off."
1	Synthesize	Steve, Justin and Arthur stated they are feeling much more comfortable working with MS Word in developing their process/research papers.
1	Student-to-Student Sharing	Mark brought in Typing Tutor program and shared with group; some students mentioned wanted to increase their speed. He explained that it is a simple easy to use program on the computer.
1	Pride	Steve has his feels happy about the progress he is making in MS Office. He bought he a sample form he made for his job which replaced a really old form.
1	Sharing	Malion discussed with the group business ethics and issues at his job.
1	Teacher to Student=ToS Guided	I had students complete an evaluation of class and took care of administrative tasks. Provided assistance in students writing projects as needed.

Technical Writing Jottings/Observations/Reflections
October 26,1996

Reflections

First, I asked students to share with me their topic of research.

Next, I took care of some Administrative Details, such as advising students of the last date they could drop the course and that the school would be closed on Thanksgiving week-end. Additionally, I got a head count of who would be present for a guest speaker, Mr. Alex Litchfield, Mars Electronics, on November 23 or December 7. I indicated that he will do a brief presentation about Mars Electronics and look at student resumes. Also, I reminded class to complete their resume summary form and begin to develop a draft resume. Then, I reminded students that they should be developing their research projects. Finally, I asked student to write a journal about their experiences at PIT including how they feel about this course (Appendix 8.1).

Today was Mark's first day back--arrived about 1 hour late. He has been out because his dad has been very ill. He is a good student and will have no problems completing his course work. He had been reviewing the text during his absence.

Technical Writing Jottings/Observations/Reflections
October 26,1996

Observations

- Kyle and David; Steve and Mailon; Arthur; Mark and Justin had to do some work independently because developing individual process papers today; Chris absent today
- Some students putting final touches on their process papers today
- Because of work schedules most students had requested that they do their process projects independently and have them reviewed by peers in class--I consented
- Arthur more focused today and appears more serious about working on his projects
- Justin has become very focused and is working hard on his projects; not as open to critique as some students
- Mark supportive and helpful. Brought in several copies of Typing Tutor for student distribution
- Teacher acts as student--Observed how to solve a MS Word Paragraph formatting problem
- Lots of intra-group movement

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Technical Writing Jottings/Observations/Reflection
November 2,1996

Number of Occurrences	***Discrete Event***	***Participants***
2	Smile/Friendly	Steve arrived early today with quiet smile on his face. David arrives on time and strolls in slowly. Shortly, after than Martin comes in with grin and tips cap on head.
1	Focused Individualism	Steve arrived early; quiet but pleasant; being working right away on developing his resume.
1	Focused	Martin and Steve began immediately finalized their process paper
1	Joke	Ken said, "Go easy on me man."
1	Laughter	Steve, David and Justin Laughed at Kyle's remark.
2	Peer Review	Steve, Martin and David reviewed and give comments on Kyle's interview paper. Kyle agreed with remarks. Steve suggested Warning and David and Martin suggested use of graphics.
1	Laughter	"Go easy with the red pen," Kyle said and group laughter.
1	Teacher-Student Focused	Kyle, Martin and Teacher worked on developing a spreadsheet for Martin's travel business. Learned additional format features in Excel.
1	Sharing	Steve said he is developing a spreadsheet for his job.
1	Student as Teacher	Martin showed class how to resolve the print request command that continued to appear on screen when you drive to preview of document without printer being attached to computer; He said "set default printer to solve the problem."
1	Focused Peer Review	Group reviewed and discussed problems with interview paper.
1	Dialogue/Sharing	Martin raised issue about technical skills, read article on "The Perfect Candidate"; and discussed skills' employers want. Kyle brought up again how young people lack team and communication skills. He said "they feel the world owes them"; group agreed with his comments. He said, "I had to thank Sandra for allowing her to let me help her."
1 1	Peer review Pride	Kyle and David evaluated Martin and Steve's process paper and gave them an over favorable review. Few formatting errors. They said the report was pretty good.
1 1	Focused Intra-group movement	Kyle moved between his group with David and Martin; Martin moved between two groups as well to provide assistance to peers a needed.

1 1	Focused Individualism	David did some independent work on his resume for a while and interview paper.
1 1	Confident Sharing	David appeared more confident today--wanted to share his interview results. Justin made the statement that he is glad he stuck with the class because he is beginning to see the results of his efforts.
1 1	Sharing Supportive	David was unable to think of a research idea; group gave him their ideas and he finally came up with an idea on how music evolved from human design to use of technology in creating music has changed from strictly human to technology.
1	Relaxed	Kyle reared back in care; very comfortable while reviewing article on communication.
1	Sharing	Martin discussed division at his job; maybe company slip and he has been designated as one of the **"guys"** to go with team that leaves.
1	Pride	Martin showed class the results of his use of the WordArt Feature for his portfolio. Kyle and Justin questioned if it was to fancy for a portfolio. Martin said he liked it for his portfolio.
1	Supportive	Kyle supportive of David and Martin and shared his expertise in MS Word and Excel with them.
1	Query	Martin questioned if he could develop a worksheet that would meet the needs of his travel business.
1	TS	Discussed development of interview papers. Gave students examples to look at--some better written than others. Also, I gave them a format for developing their interview.
1	TS	Shared article with students on communication skills and employment.

Technical Writing Jottings/Observations/Reflection
November 2,1996

Reflections

Although, today's class was small, only two teams the atmosphere continues to be relaxed, focused and friendly. Students were eager to learn new communication skills and integrate them at work and in their businesses.

The first thing we did today was to review the requirements for the interview paper. I had the teams evaluate a paper that was written by a student in a different class and read it individually evaluated the paper. (Appendix 9.1). Then we discussed this paper as a group.

Next, I reviewed with the students a copy of an interview paper that I did and gave them a skeleton of how to summarize their interview findings. (Appendix 9.2)

Additionally, we discussed at length the article "The Perfect Candidate." This article confirmed that employers what communication skills--can you write as well as effective presentation skills. (Appendix 8.3).

Looking at some material from a previous class in Leadership Styles, I am beginning to correlate an educator's role with that of a manager's role as cited by Blanchard in Situational Leadership.

Teaching this class using a collaborative approach has been a ***freeing*** process for me. I am beginning to us the team approach in other classes that I teach at this point-- mid-way through the semester. Better late than never. I see this model as a valuable learning and enriching experience for the student and well as the teacher. The students and the instructor are experiencing the value of synergy.

Clearly, this past week was the first time that I really began to think about the benefits of cooperative learning. I am becoming transformed myself and I realize the benefits of joint intellectual venture for my students and well as myself. I feel a sense of freedom.

Also, this week-end while looking for some educational material, I discovered an article "The Feminization of Leadership" which I used in a previous course--Leadership Styles--and was amazed at how close the characteristics cited there appear to be manifesting in my class.

Technical Writing Jottings/Observations/Reflection
November 2,1996

This past week, I was encouraged enough to begin to use collaborative writing groups in my English 101. These students have been exposed to collaborative learning by one other faculty member and were receptive to this idea in the class.

Technical Writing Jottings/Observations/Reflection
November 2,1996

Observations

- Small class but two productive today (Martin, Steve, Justin, David and Kyle)
- Two students had to work this Saturday: (Calin, David--unsure about and Mark--expected them both in today)
- Friendly and supportive
- Open to criticism from peers and instructor
- Community like environment; student feel free to share move between groups
- Laughter, relaxation and joking

Technical Writing Jottings/Reflections/Observations
November 9, 1996

Number of Occurrences	*Discrete Event*	*Participants*
1 1	Cheerful Apologetic	Martin arrived early began working on his employment project at the computer. Calin arrived next and said that his job has him working up to 70 hours per week. This is the reason for him missing last two classes.
1	Tease Playful	Students reviewed a letter written by the instructor. Kyle notes a mistake on the letter written and "teasingly" pointed it out to the instructor. Everyone laughs including the instructor who reminded students that writing was not an easy task.
1	Sharing Dialogue	Kyle distributed as promised and discussed the resignation letter submitted by one of his employees. He said that it was a "bad letter." He noted that he and his spouse are both college graduates and he said many students graduating from 2 or 4 year colleges are not being prepared for the workforce. Group looked at letter and saw a number of problems from content through structure.
1	Laughter	Justin said he knows how 'not to write a resignation letter, never include spouse's name on inside address."
1	Sharing	Martin brought up the issue of HTML and JAVA language and shared with the group the differences in the two languages. Group felt that school should be teaching Visual Basics and more "C" Programming courses as opposed to QBasic.
1	Dialogue Sharing	Martin shared with group how to use Internet/Netscape and have several dialogue windows going at the same time.
1 1 1	Peer review Individualism Focused	Team members individually reviewed David and then Hamid's process papers and made constructive comments. For instance, Steve said that David needs bullets. Kyle said Hamid need bullets also and change enumeration; group agreed that Hamid needs some graphics. Martin said warning in David's paper should be moved to number two.
1 1 1 1	Student to Student Synthesize Play/Tease/Pride	Student teams formed to rewrite a letter using MS Word--Calin and Justin, Kyle and Mark, Steve and Martin. Calin stated that Kyle and Mark finished first because Kyle has more experience. Group agreed that Kyle was the most experienced and had lots of good skills. This boosts Kyle's ego a little.
1 1	Student to Student Focused Pride	Martin and Steve worked together putting final touches on their process paper for submission today. Martin and Steve said he was pleased with their team efforts and the final product.
1	Peer review Focused	Group reviewed process papers and collectively made comments.
1	Individualism	Steve worked for a while on his resume project.

1	Peer-to-Peer Synthesize	Steve and Calin; Justin and Martin, Kyle and Mark; worked on assignment one to develop an effective letter.
2	Pride	Calin and Steve; Martin and Justin both were satisfied with their final revised letter. Calin said his team's letter could use a little more work but agreed that writing is a process and takes time to develop a good product.
1	Focused	Kyle assisted Martin on developing an Excel spreadsheet for his business; were using "=IF" statements and creating pie charts.
1	Play	Kyle said he wanted David to know that he didn't take part in the review process of his paper. Laughter.
1	Query	Kyle questioned how to distribute copies of a document to several employees--referred him to *Gregg Reference Manual* .
1	Query	Martin wanted to know who changes these formatting rules for documents; group discussed this issue.
1	Query	Justin questioned how to cite references from the Internet. Handout was given re these citations.
3	Focused Supportive Integrate Synthesize	Kyle and Mark, Steve and Calin, Martin and Justin worked on and revised a letter from the class assignment. Team members changed roles at keyboard and giving each other input.
1 1	Focused Face-to-Face Supportive	Martin provided reviewed and gave feedback to Justin on his process paper.
1	Student as Teacher=SaT	Kyle showed group how to use the bullet formatting feature to modify bullet start part in MS Office. I had not used this feature before and was glad to learn it.
1	Peer Review/ Supportive	Each team reviewed their final letter with group. Martin and Justin said they were not quit finished; only first draft. Kyle and Mark said they were President and Vice Present of the "Voice Data Company." Calin and Steve felt good about their final letter.
1	Sharing	Kyle said he prefers the subject line above the salutation; so did most of the other group members. Group agreed some formats are established at work and some times you have flexibility in choosing the format you like.
1	Teacher to Student=TS	Reviewed Chapter 7 which discussed good letter writing and during this time I also reviewed the MLA and APA reporting formats.

Technical Writing Jottings/Reflections/Observations
November 9, 1996

Reflections

First order of business was to take care of administrative details. I asked students to mark their calendars for December 7, 1996, because we have a guess speaker from Mars International. Also, I advised them about a Qbasic Seminar is scheduled for November 12, 1996, and I distributed materials to students who missed last week's class.

My primary focus today was to review the process of letter writing, especially employment related letters with the students-Chapter 7. I stressed again the importance of prewriting, writing and rewriting. Then, I reviewed the full block and modified block letter and the components of a letter. Additionally, I discussed modern trends in terms of letter format. For instance, "c" is used instead of "cc" for copy. Also, I reviewed with students how to access the format menu and set Headers/Footers.

Next, I reminded students to begin pulling together their research project bibliographies and paper. As requested, I briefly reviewed the two types of reporting styles for bibliographies--***MLA*** and ***APA*** *format*. I reminded the students to get a good reference manual as a guide in writing letters, reports and papers.

This was a productive class. As I reflect back on today's class, I believe that 'shared intellect' is good. Students appear to learn from each other and enjoy the assignments when working jointly. The classroom interactive and students are using the technology to help them with their writing skills.

Another thing that I have noticed and did not notice until the past few sessions is that there is a lot of intra-group sharing--that is members in various teams get up go to another group and provide assistance and then return to their own group.

At this time and some reflection, I believe that the role of the teacher in the use of technology and collaborative environment learning is critical. He/she must set the stage for productive learning to occur. Certainly, it is clear that while in a collaborative environment my role expands to a facilitator and guide more often. For instance, I believe that the role of the teacher goes full circle: from directing, to coaching, to supporting to delegating as cited by Blanchard in Situational Leadership and the One Minute Management. As educator, I must learn who my students are and how they learn. Then I must

adjust my teaching style to the individual, as well as the classroom situation. I must be able to coach as well as direct the class on a given path.

Because the success in English 202, this past week I used the collaborative writing process in my other class. My intent was to allow students to share their knowledge and develop a better product. I mixed groups to allow that to occur--students not finished their assignments yet--so far so good. Additionally, I used collaborative learning in my Introduction to Business Course, rather than lecture format. Also, I decided to have students develop their own business portfolio in teams for a final project. One student said, "Boy time went fast; today was a fun day."

After class, Martin stayed and I provided some additional support to Martin in developing his Excel project for sister's travel business.

At this point, the materials I have read appear to support what has been going on in my class and what I am experiencing in the classroom is confirmed in the literature. My classroom has been transformed into a community and I am not the center--I like that.

Technical Writing Jottings/Reflections/Observations
November 9, 1996

Observations

- Pleasant and cheerful today
- Lots of play but it was productive
- Students willing to share ideas and give critique of peers projects
- Students non-competitive and supportive of one another
- Exhibit sense of satisfaction or pride in their accomplishments
- Student appeared relaxed; lots of sharing of knowledge with teach other; especially technology
- Justin still a little hesitant about open criticism; Martin reviewed his process paper with him one on one
- Adam worked most of the time independently today--getting caught up
- My role as instruction is dynamic in a collaborative environment

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Technical Writing Jottings/Reflections/Observations
November 16, 1996

Number of Occurrences	*Discrete Event*	*Participants*
1	Friendly Sharing	David arrived first today, greeted teacher shortly after Kyle arrived and they began discussing information about a computer magazine in which David's company advertises.
1 1	Query Supportive Student-to-Student	David shared with the class and the teacher the interview format in a magazine where his company where places their advertisements. David questioned if he could use the interview format noted in the article--teacher said, "Yes." David made copies of the articles for the class. Some of the students expressed that they liked the question and answer format as opposed to a summary format.
1 1	Sharing Supportive/ Helpful	David went to office and made copies and shared interview article with team.
1	Group Laughter	When David returned Mark said, "David gets brownie points for making copies."
1 1 1	Student as Teacher= SaT Focused	Kyle presented to the group a session on Power Point (PP). He reviewed flow chart creation, sales presentation, and organizational charts made on PP. He discussed the uses of Power Point in his company and in his job. He ran one of his sales presentations for the group to see. Also Kyle demonstrated how to create a simple presentation using Autowizard.
1	Queries	David asked Kyle questions about how he uses PP; Steve asked questions about Presentation timings. Lot's of questions generated by students on use of PP.
1	Sharing	Calin shared with the group how his construction company uses PP. He said that at their training sessions or contact shows his company uses PP to review its services to prospective customers and they also use it to new employees.
1 1	Pride Supportive Laughter	As the group spontaneously applauded his presentation Kyle jokingly bowed.
1	Teacher as Student=TaS Observer	Kyle demonstrated how to generate flow charts in PP. Teacher had not used PP for flow charts was a good learning experience.
1 3 1 1	Synthesize Student-to-Student Focused	Kyle and Steve; Mark and David; Calin and Martin were team members. Students developed mock research outline--introduction, body and conclusion using PP Autowizard .
1	Peer-to-Peer Review	Students reviewed each other's mock presentations. Group laughed at Kyle and Steve's presentation on "The Evolution of a Football Widow."

2	Individualism Individualism	Martin was excited about the possibilities of PP for his business and began developing a presentation for his Travel Agency Business. Calin also began developing a presentation for his outline on the construction industry. They started out as a team but realized they wanted to go in different directions--so they did so.
1 1	Intra-group movement Student-to-Student	Kyle left team and assisted Calin and Steve; Martin and Calin left team to review Kyle's and Steve's because they wanted to see what the was so funny about the presentation.
1	Joking Laughter	Kyle was good enough to go to the office and make copies of his draft interview for students to review. When he came back he said, "the guy in office said his portfolio was wonderful."
1	Sharing/Eager	David was excited about the using PP for his sales training presentations. He said, "I can really can use this stuff in the field for my presentations to the guys."
3	Laughter/ Joking	Group members signed video release form, Calin said, "How many points do we get for signing this release." Martin said, "Will I get an A for the course." Kyle said "you guys sign in pencil until we get our final grade."
1 1	Supportive Student-to-Student	Martin worked with Calin on disk reading error. He did a diagnostic test with Norton Utilities and determined that the disk was damaged.
1	Laughter	Calin said, "Brownie for David for making copies for group."
1	Student-to-Student	Mark shared with group how to get Clip from CD ROM; reviewed the procedures with the class.
1	Pride	Mark and David; Steve and Kyle delighted about their mock presentation.
1	Sharing	David shared with the group the type of CD ROM Equipment that his job makes and he markets. He train's staff how to operate CD ROM equipment. He travels in and outside of US.
1	Student-to-Student Supportive	Kyle helped Calin moved files using File Manager from his disk; created sub-directory and dumped files in for Calin.
1	Teacher to Student=ToS	Discussed types of research reports and had students open up Power Point to create a research outline using Autowizard and provided assistance to teams as needed as they developed these outlines.
1	Teacher to Student=ToS	Explained reason and purpose for release forms.

Technical Writing Jottings/Reflections/Observations
November 16, 1996

Reflections

Today was a productive class. As usual, I had to take care of a few administrative details such as remind students about December 7 speaker. Then I had students sign the authorization release form and explained in more detail to them the purpose of my qualitative analysis project.

Then there was some additional discussion on the format required for the interview. David questioned if he could use a different form than the one discussed in class, I said "sure."

My purpose today was to make sure students were comfortable developing with their research projects. I prepared a PP presentation on developing a research outline. I reviewed the different types of approaches to take for a research paper. Students could critique an author's work, develop a descriptive paper, do a compare/contrast paper, prepare a pro or con paper or a given topic, etc. Next, I asked the students to break in to teams, gave each team a disk so they could review my presentation. The purpose was two-fold. First to review the research process and next to give the students an idea of how they can effectively present information in PP. The PP Wizard establishes an outline format for them and I wanted students to develop a mock research design using PP.

After the students reviewed the lesson, I turned the class over to Kyle Brown. Kyle reviewed three uses of PP--selling a product or service, creating flow charts and designing organizational charts. He reviewed how to create a presentation and use auto time settings and answered student questions regarding PP.

After Kyle's presentation the class took a few minutes break and came back to create a mock research outline using PP. The student teams developed a topic of their choice and used PP to create the outline. They appeared to enjoy this activity.

Towards the end of the class, I assisted Martin in developing a budget for his sister's Travel Agency sheet. He wanted to have numbers change colors--can do this by creating [Red], [Blue], etc. at format cell command and gave him tips on use of PP for the company.

Technical Writing Jottings/Reflections/Observations
November 16, 1996

Observations

- Productive class
- Friendly and lively group
- Class members very supportive and encouraging
- Group play around a lot
- Group appear to enjoy the team approach and the integration of technology with course work
- Focused developing mock research outline

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Technical Writing Jottings/Reflections/Observations
November 23, 1996

Number of Occurrences	***Discrete Event***	***Participants***
1	Smile	Kyle enters room with a warm smile; Steve follows and the two begin to share about new applications n the market.
1	Query Sharing	Justin raised questions about dressing for success. There was some discussion on this issue. Kyle stated that in his business dress is informal. Calin stated that for an interview you should dress in a dark suite. There were different opinions on this issue.
1	Sharing Student-to-Student	Mark discussed some of the features of Windows 95, Windows NT; 16 bit programs running under Windows vs. 32 bit programs. Group discussion on advantages/disadvantages of these new operating environments.
1	Laughter	Kyle said , "Better do a good job on those portfolios if you want 'A' from Ms. Hill."
1	Focused Individualism	Students worked on the employment section of portfolio--resume, cover letter and references. Since many were developing draft resume they worked independently.
1 1	Student-to-Student Teacher as Student=TaS	Kyle demonstrated to the group the some additional formatting features when by modifying document using the print preview button.
1 1	Supportive Student to Student	Kyle shared ideas about resumes and cover letters from an employer viewpoint. Students felt free to get support from their peers on an as needed.
1	Pride Sharing	Mark showed the group the binder for his portfolio that e found and liked. He said, "I had a hard time finding a binder that I liked."
1	Laughter	Mark said, "I guess I am up for brownie points today." Group said, "You bet."
1 1	Sharing Pride	Kyle shared with group additional materials/brochures from his job that he developed.
1 1	Peer Review Pride	Kyle gave Steve comments on his resume. Mark and Steve gave one another feedback. Every one liked Kyle's resume. He said, "I am pleased with what I have so far." He said, "I do not want my resume to go to PIT's career services." He explained that his employer might get it and think he is looking for work.

1	Sharing	Kyle stated that he has developed a draft of his research, but was not satisfied with the product. So he is continuing to develop it at this point.
1	Individualism Focused	Steve and Mark began work on draft their interview papers. Justin worked on his research project. Kyle modified his resume, cover letter and interview project.
1	Student-to-Student Sharing Teacher as Student=TaS	Mark discussed the Internet and UNIX environment. The group discussed this language and the value of knowing UNIX. Instructor not too familiar with UNIX. Martin said, "If you know DOS it is similar, but more sophisticated."
1	Sharing	Mark shared with the group his interview with a computer company that re-sells computers. He brought in material about company to share with group. He said the owners were really nice to him and he may even get a job interview out of this project.
1	Intra-group movement	Students moved around to assist and get input from each other as needed.
1	Teacher-to-Student=ToS	Provided assistant to students on and as needed basis. Discussed PIT's Career Services Department with students.

Technical Writing Jottings/Reflections/Observations
November 23, 1996

Reflections

First, I reminded students that if they are candidates to graduate they must submit their resumes to Career Services.

Today, the students continued to develop the employment section of their portfolios and a few are being to develop drafts of their research projects. For their research project, I consented to allow students search a topic in their field of employment or a topic of particular interest to them.

This was as small group today. Again, because I have working adults sometimes they are out of town or on a job assignment and cannot come to class. As long as I understand the reasons for their absence they are not penalized.

My role was to provide assistance to students with their portfolio development on an as needed basis. For instance, Mark had some particular questions about his resume layout and content.

Justin had questions regarding appropriate dress for an interview. I mentioned knew more about women's dress than men. I felt comfortable delegating to the students the tasks of researching dressing for an interview. Their job was to report back to the group on next week.

In reflecting on the class the following observations were made:

While, I have taught computer related courses for several years, I have never used a collaborative approach. I am convinced that after having used this approach the learning environment is improved when students work collaboratively. Additionally, I believe that even in a computer environment the collaborative learning pedagogy enhances learning and should be used along with other teaching strategies in the classroom. From my limited experience in this new environment, I can say that I really like what happens to the environment.

In this environment, students are relaxed and playful. As a very serious person, I must say that I was initially apprehensive about how relaxed and playful my classroom became. But I realize

now that the joking and playing around may relate, in part, to the fact that the class consisted of all males. I believe now that play this does not preclude learning but reinforces it.

Students have taken on various identities in the class. Kyle has emerged as the leader of this group and students recognize his expertise relative to employment and MS Word. Martin as emerged as the technical expert because he has been able to resolve many hardware problems. David has emerged as the CD ROM expert. Mark has emerged as the computer applications guru. Steve has quietly emerged as the technical expert and is quite knowledgeable computer technical issues. Justin is the youngest of the group but group recognizes his knowledge of hardware and is developing his knowledge in application software. Adam appears to enjoy working on application programs, still not as focused as other members of group and his personality has not fully emerged. Calin is viewed as communications expert and knowledge in the construction industry.

Technical Writing Jottings/Reflections/Observations
November 23, 1996

Observations

- Pleasant and cheerful today
- Another productive day
- Students willing to share ideas and give critique of peers projects
- Students appear to care about their classmates success and are very supportive of one another
- Student appeared relaxed

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Technical Writing Jottings/Reflections/Observations
December 7, 1996

Number of Occurrences	*Discrete Event*	*Participants*
1 1 1	Smile Focused Individualized	Steve arrived first greeted teacher went straight to the computer and began finalizing his employment project.
1 1 1	Friendly Sharing	Kyle arrived second; hooked up his laptop and seated his self next to Steve. Steve was excited about recent job interview and the two began to discuss possible outcome.
1 1	Focused Individualized	Kyle began putting some final touches on his research paper. He stated that he had his peer at work review his paper as well. He was the first one to finish all his drafts but eager to receive feedback from peers as well as instructor.
1 1	Smile Sharing	Mark and David arrived at around the same time. One student nicknamed David--'smiles'--because he always has such a bit and pleasant smile on his face. The group began discussing issues about Windows NT and networking. Mark brought in NT CD ROM Packaged for students to see.
1	Laughter	David made a comment about being an unauthorized "TBA." because his job took him out of town some much.
1 1	Student to Student Pride	Steve was eager to review with the group how he landed a promotion at his job. He stood up in front of the group and gave the group a detailed review of his job interview--from the type of test he took to how he prepared for the panel interviewer. He said, "the other guys were not prepared or organized" and that this course helped him with organizing and presenting himself at the interview. He shared with the group the handouts from interview. He shared with the class how he passed the technical test and that one guy destroyed the test board. Peers asked if got the job--He said, "I am not sure at this time but I hope so."
1	Supportive Spontaneous/ Clapping	Group members began to clap for Steve for doing a great job on the interview. Kyle says "way to go."
1 1	Student-to-Student Teacher as Student=TaS	Group discussed dressing for the interview and on the job. Kyle said he checked out various companies dress codes and that in his business dress is casual. He noted that employees should follow the codes for their type of business. Calin said he read a recent article that employees are beginning to abuse "dress down day" and employers are beginning to change this policy. David said that employees should dress in a suite and tie for an interview --Martin and Steve agreed with him. David raised the issue of the "power of tie." This was a new idea to me. Calin said the interview tie must have some hue of red. Mark did an extensive search on the Net a brought in material he download on dress for men at work.

1 1	Student to Student Intra-group movement	Class spontaneously formed groups and helped each other as needed. Kyle helped Calin. David helped Steve. Mark assisted Adam. Joell was assisted by David and Kyle.
1	Student to Student	David gave Kyle feedback on his research paper. Kyle stated that he was satisfied with his project at this point.
1	Sharing	David said he wish he would have gotten started earlier doing his research--like the teacher told him. Now the time is right here. He said he had to take time off work to get his materials together.
1	Individualism Focused	Students spent part of class on their research project.
1	Peer-to-Peer Review	Students reviewed each other's resumes. Kyle reviewed David's resume. Kyle reviewed Calin's and Mark resume. Group gave Adam feedback on his materials.
1	Laughter	Calin made a comment about Kyle finishing before everyone else. David said, "That's why he is the boss"
11	Sharing Laughter	David shared with group how he got his present job. He stated that while he is still unhappy with the company for not giving him a salary increase he decided not to make a move until after the holidays because of big bonus he gets.
1 1	Peer Review Laughter	Team examined Mark's resume--tried to get a fancy word for bartender. Mark asked how he could glorify that job title.
1	Supportive/ Helpful	Steve made copies of his job interview for teacher and class members that wanted them.
1	Student-to-Student	Mark and Martin lead a discussion HTML with the group, since he and Martin are most knowledgeable in the area.
1	Laughter	A recent PIT grad came to the lab for help with his resume. Kyle said "let us have your Joell we'll redline it for you."
1	Peer Review	Group looked at Joell resume which had large diamonds and lines over it. Students began to give him feedback such as remove the lines and diamonds.
1	Student-to-Student	David and Kyle volunteered to help Joe; Kyle spent the most time revising resume. Joe said he had to get the resume in the mail today.
1	TS	Provided assistance on as an needed basis; Adam most need today.

Technical Writing Jottings/Reflections/Observations
December 7, 1996

Reflections

I took care of usual administrative details--roll and reminded students of project deadlines.

This was a lively and interactive session. I did not assign any group but spontaneous groups forms today and intra-group movement occurred. My initial agenda for the day was to have a guest speaker, but he canceled at the last minute because he had to go out of town on business.

Steve was eager to share the success of his job interview with the group and how he prepared for the interview.

There was a lengthy discussion by the group on men's attire for work and for job interviews. Kyle and Mark did a thorough investigation on this issue. I had to leave the conversation about 5 minutes and group discussion carried well without me.

One of the students had previously taken this course and who work on Saturday came to the lab and was attempting to modify his resume. He asked for some help and David and Kyle volunteered to assist him. He said this class seems to be having a lot of fun and this appears to be a pretty 'sharp' group. Joell is a candidate to graduate in May and works part-time for the school. He is night-weekend administrator and must among other things, open and close the computer lab.

Today, I had a limited role in the I classroom. I did give students a hand out on a HTML document I created and there was group discussion of the use of e-mail and the Internet. Mark and Martin lead this discussion--both are pretty knowledgeable on the Internet.

Interestingly enough, today I did not formally break the students into groups today. However, spontaneous groups formed and dismantled on an as needed basis. Students worked independently on their various projects and moved around the room and provided assistance to each other on an as needed basis.

Technical Writing Jottings/Reflections/Observations
December 7, 1996

Observations

- Present: Kyle, David, Calin, Mark, Steve, Adam, (Joell=guess student)
  Martin arrived late today. Justin and Adam worked independently this past week in the lab on their projects.
- Joell said, "This is a lively and active group and that we felt this group could help him out with his resume."
- Friendly, focused and lots of laughter and kidding around
- Continue to be supportive and encouraging
- Open criticism

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Technical Writing Jottings/Reflections/Observations
December 14, 1996

Number of Occurrences	*Discrete Event*	*Participants*
1	Friendly	David enters with big smile; Calin comes in pleasantly with smile.
1	Sharing	David, asked was he going to read his presentation; group said no. He said his girlfriend told him he would have to present. He didn't believe her because he never had to give a presentation before even though he is graduating in May '97.
1	Play	Mark said, Martin's teacher is the teacher's pet--because was dressed up today.
1	Sharing Pride	David was excited, shared with group that he sent out his resume and go a response back. Company wants to bring him in for an interview next week. He stated, "I am glad that I was forced to develop a good resume."
1	Sharing	David said that he really liked the format of this class. He noted that he had a class with an instructor with only 5 students. He said that for the entire summer session about 5 questioned were raised and 4 of them got answered. He concluded that the instructor was knowledgeable and would go off on a tangent lecturing and writing on the chalk board, but he didn't get much from the lectures.
1	Sharing	Calin, stated the he liked the dynamics of the class. It was a learning experience to give input and well as receive it from peers. Liked that students were able to learn from each other as well as teacher.
1	Sharing	Mark said that the course made him want to know the material and be ready to get involved.
1	Sharing	David said although he had to a lot of classes because of travel he got a lot out of the course and was very please with his resume development and the ways he has learned to use the MS Office.
1	Sharing Laugher	David said he never had to do an oral presentation in any of his courses. He stated that he thought he could get up and read his paper line by line. He said, "my girlfriend told me that I would have to give an overview and I didn't believe her."
1	Sharing Pride Supportive	Martin developed a Power Point Presentation for his Travel Business and was eager to share with instructor and group. Group members were impressed. David said, "way to go Martin."
1	Play Pride	Martin said, "do get extra credit for this Travel Presentation". Group laugh.
1 1	Focused Individualism	Calin, David, Mark, Steve, Martin, Hamid worked individually putting finishing touches on their portfolios.
1	Play	Martin came to class, formally dressed. Group teased him and said he just wanted an "A". Martin said the only reason he was dressed was because of business.

1	Sharing Play	David said, now I know why Kyle did come today because of presentation. He was joking, because group knows that Kyle is a good presentation.
1 1	Sharing /Play	Steve usually pretty quiet, joked and said "do I have to give my presentation, since I already gave one about my new job last week".
1	Supportive Clap	David led a applause for Steve who got the promotion at Mars.
1	Peer-Peer evaluation	Mark, David, Steve, Martin presented their research projects. Evaluated by peers.
4	Pride	Students that presented their research paper appeared happy and confident in their subject matter.
1	Teacher to Student=ToS Dialogue	Teacher shared with group how she plans to use research gathered from course. Discussed the dynamics of class. Calin agreed that a real sense of comrade developed between members.
1	Intra-group	Team members put final touches on portfolios. David showed Steve and Mark how he did his table of contents.
1	Sharing	Steve said he liked the support members gave each other.
1	Teacher to Student=ToS	Explained more in depth purpose of my project to students and discussed my observations of the 11/22/96 class.

Technical Writing Jottings/Reflections/Observations
December 14, 1996

Reflections

I explained to the students the purpose of my research and that I really enjoyed this group. I discussed the class of 11/22/96 that I observed and the difference between the two sessions even though same topics covered. The class members expressed their feelings about the course. They all seemed to have like the collaborative technology approach. This was the final session and the primary purpose was for students to present their research projects and turn in their portfolios.

Then students spent time putting final touches on their portfolios.

I pondered the reason for the success. First, I thought it was because some of these students had shared classes before. I am sure this played may have influenced their friendliness towards one another, but if this was true why didn't this same social atmosphere appear in the class I observed on 11/22/96. Most of the students in that class are candidates for gradation in May and have shared classes and are sharing class together. I wondered was this due to the fact that we lacked female presence for the most part and maybe that is the reason the males were so supportive. But the class I observed had only one female and there appeared to be no interdependence or supportive given to peers.

Now after my immersion, I firmly believe that the use of technology and collaborative learning were the major factors that contributed to the success of this class. Notwithstanding the fact that as an educator, I had to develop a rich learning environment by establishing criteria and format for the course. I am convinced after my experience with this class that I must include collaborative technology in all my classes.

Technical Writing Jottings/Reflections/Observations
December 14, 1996

Observations

- Hamid present today, I worked with him independently much of the semester.
- Friendly and supportive.
- Lots of sharing today.
- Continue to be supportive and encouraging
- Play and joke around

jott127

APPENDIX B-QUESTIONNAIRES

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Questionnaire

*Name:*_____ *Date: September 21, 1996*

What are your reasons for attending this course other than the fact that it is a graduation requirement?

My writing skills would be tremendously improved ~~by~~ taking this class.

Are you anxious about this course?

Sort of.

When you are evaluated at the end of this course, would you prefer to be evaluated by taking an exam or by submitting a portfolio or some other mode of evaluation?

Some other mode.

Would you like to integrate your experiences in this course?

Yes

What kind of teacher-student relationship do you prefer?

Close

What do you want to gain from taking this course?

Maybe I'll write longer sentences. Actually, I need this course because I know I'll be able to use what I learned on the job.

What kind of classroom atmosphere do you enjoy the most?

A relaxed atmosphere.

Do you learn better working independently or in teams?

In teams

Do you feel comfortable working with technology in the classroom?

Yes

If you could choose would you select a traditional classroom environment with teacher as lecturer or an environment where you interact with technology and learn with and from your peers?

The later.

What are your responsibilities outside the classroom and how will they impact this course? I am a Field Service repiar person, I can give input as far as the various types of Technical Bulletins I encounter.

DH

Questionnaire

Name: _____ ***Date: September 21, 1996***

What are your reasons for attending this course other than the fact that it is a graduation requirement? this is (real life) english!

Are you anxious about this course?
yes because, this is the subject I need the most work on.

When you are evaluated at the end of this course, would you prefer to be evaluated by taking an exam or by submitting a portfolio or some other mode of evaluation?
Submitting a portfolio.

Would you like to integrate your experiences in this course?
yes.

What kind of teacher-student relationship do you prefer?
a relaxed atmosphere, because you will learn more if you are not stressed.

What do you want to gain from taking this course?

how to communicate on paper.

What kind of classroom atmosphere do you enjoy the most?

relaxed. aslong as all the work getts done.

Do you learn better working independently or in teams?

independently

Do you feel comfortable working with technology in the classroom?

yes.

If you could choose would you select a traditional classroom environment with teacher as lecturer or an environment where you interact with technology and learn with and from your peers?

What are your responsibilities outside the classroom and how will they impact this course?

MR

Questionnaire

Name: _____ ***Date: September 21, 1996***

What are your reasons for attending this course other than the fact that it is a graduation requirement? One reason for attending this course is to help me be more Proficient in Communicating with others in written format

Are you anxious about this course? Yes I feel that I lack the ability to communicate in a way that people will understand in a Technical atmosphere

When you are evaluated at the end of this course, would you prefer to be evaluated by taking an exam or by submitting a portfolio or some other mode of evaluation?

By Submitting to the Portfolio

Would you like to integrate your experiences in this course?

No I would not due to the fact my Experience's do not Correspond with what my future goals are

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What kind of teacher-student relationship do you prefer?

one that is Professional But at the same family. That way the teacher-student Relationship will allow for more learning

What do you want to gain from taking this course?

What I expect from this Course will enable me to teach my students on the use of Technology

What kind of classroom atmosphere do you enjoy the most?

I like the free flow of Ideas

From this we are able to Listen to the opinion of others and learn from it

Do you learn better working independently or in teams?

Both. In teams we are able to help each other, and Exchange Ideas

Do you feel comfortable working with technology in the classroom?

Yes very Comfortable

If you could choose would you select a traditional classroom environment with teacher as lecturer or an environment where you interact with technology and learn with and from your peers?

I like to have an environment where more Interact with students and with the technology

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What are your responsibilities outside the classroom and how will they impact this course?

My responsibilities outside the Classroom Include System Manager for SKF Timed Services. The Impact will Pro from the Knowledge given in the course I need for Technical Environment

KB

Questionnaire

Name: _____ ***Date: September 21, 1996***

What are your reasons for attending this course other than the fact that it is a graduation requirement?

To supplement my job

Are you anxious about this course?

Yes very much so.

When you are evaluated at the end of this course, would you prefer to be evaluated by taking an exam or by submitting a portfolio or some other mode of evaluation?

I would prefer to submit a portfolio.

Would you like to integrate your experiences in this course?

Yes I would.

What kind of teacher-student relationship do you prefer?

I think that our interaction is perfect.

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What do you want to gain from taking this course?

I hope to improve my writing skills by learn some things of the trade, etc.

What kind of classroom atmosphere do you enjoy the most?

I am enjoying this class because of the environment and the interaction with stude and teacher.

Do you learn better working independently or in teams?

Independently

Do you feel comfortable working with technology in the classroom?

Yes, it is very challenging

If you could choose would you select a traditional classroom environment with teacher as lecturer or an environment where you interact with technology and learn with and from your peers? To both.

What are your responsibilities outside the classroom and how will they impact this course? I am required to write many documents at my job, therefor this course will impact my job.

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Questionnaire

Name ***Date: September 21, 1996***

What are your reasons for attending this course other than the fact that it is a graduation requirement?

Are you anxious about this course?

When you are evaluated at the end of this course, would you prefer to be evaluated by taking an exam or by submitting a portfolio or some other mode of evaluation?

Would you like to integrate your experiences in this course?

What kind of teacher-student relationship do you prefer?

What do you want to gain from taking this course?

What I need

What kind of classroom atmosphere do you enjoy the most?

interactive

Do you learn better working independently or in teams?

both

Do you feel comfortable working with technology in the classroom?

Yes

If you could choose would you select a traditional classroom environment with teacher as lecturer or an environment where you interact with technology and learn with and from your peers?

[illegible]

What are your responsibilities outside the classroom and how will they impact this course?

Life changes daily

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Questionnaire

Name:_ ***Date: September 21, 1996***

What are your reasons for attending this course other than the fact that it is a graduation requirement?

In opinion, I feel this course is very valuable because it give you some impoitant saformation about how to act, talk and behave in the business world. Moreover, this course give you more insight on what employers are looking for in hiring people.

Are you anxious about this course?

Yes. Although I am behind, I am following the class and I'm learning a lot within the class.

When you are evaluated at the end of this course, would you prefer to be evaluated by taking an exam or by submitting a portfolio or some other mode of evaluation?

Truelfully, I prefer to submit a portfolio for my evaluation

Would you like to integrate your experiences in this course?

I believe by integrating my experiences in this course, I will be able to learn how to improve upon any mistakes of my experiences

What kind of teacher-student relationship do you prefer?

I believe that ~~even~~ every student has different purposes and goals that they are trying to achieve I feel that the teacher should be able to relate to

What do you want to gain from taking this course?

For the most part, I would like to achieve an overall view of how the business world works and functions in relation to new employees. In addition, what are some of the keys of getting higher raises/promotions.

What kind of classroom atmosphere do you enjoy the most?

I would enjoy the kind of classroom which the teacher makes the student interact with everyone with their experiences in the work field. I believe this is valuable because everyone is different and we can learn from each other.

Do you learn better working independently or in teams?

I work better ~~not~~ working independently because of my work/school schedule. ~~etc~~

Do you feel comfortable working with technology in the classroom?

Yes, I feel comfortable with the technology in the classroom. However, I would like to know more about Microsoft excel, powerpoint, office

If you could choose would you select a traditional classroom environment with teacher as lecturer or an environment where you interact with technology and learn with and from your peers?

~~Enjoy~~

I would enjoy both types of classroom env

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What are your responsibilities outside the classroom and how will they impact this course?

I am a total of 22 college credits as well as job consisting of at least 30 hours a week. This is the main reason why I am behind in a lot of the courses. Nevertheless, I

Questionnaire

Nam ***Date: September 21, 1996***

What are your reasons for attending this course other than the fact that it is a graduation requirement? Improve my writing skills

Are you anxious about this course? Somewhat

When you are evaluated at the end of this course, would you prefer to be evaluated by taking an exam or by submitting a portfolio or some other mode of evaluation?

Portfolio

Would you like to integrate your experiences in this course?

Yes

What kind of teacher-student relationship do you prefer?

One-on-one give & take

What do you want to gain from taking this course? Improved writing skills. better comprehension of reviewer's role. How to interpret others writing more effectively.

What kind of classroom atmosphere do you enjoy the most?

relaxed

Do you learn better working independently or in teams? independently

Do you feel comfortable working with technology in the classroom?

I am not as familiar with the computer as others but I think the more I use it, the better (more comfortable) I will become.

If you could choose would you select a traditional classroom environment with teacher as lecturer or an environment where you interact with technology and learn with and from your peers?

What are your responsibilities outside the classroom and how will they impact this course? Construction Inspector. Limited time outside of class to do the work, limited access to computers outside of class.

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Questionnaire

*Name:*_ *Date: September 21, 1996*

What are your reasons for attending this course other than the fact that it is a graduation requirement?

To Prepare A professional resume and learn to present my self well in an interview

Are you anxious about this course?

I have found the course more informative then I originally anticapated

When you are evaluated at the end of this course, would you prefer to be evaluated by taking an exam or by submitting a portfolio or some other mode of evaluation?

by submitting a portfolio

Would you like to integrate your experiences in this course?

they don't add to the course.

What kind of teacher-student relationship do you prefer?

Informal with student questions and feed back.

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What do you want to gain from taking this course?

How to present myself in an interview and some idea of what to expect.

What kind of classroom atmosphere do you enjoy the most?

Where the students interact with each other and answer group problems

Do you learn better working independently or in teams?

small teams 2-4 people

Do you feel comfortable working with technology in the classroom?

yes, but I realize my limitation and need to study more.

If you could choose would you select a traditional classroom environment with teacher as lecturer or an environment where you interact with technology and learn with and from your peers?

Interact and learn is much better then hours of lecturer. With no question. Asked or answered.

What are your responsibilities outside the classroom and how will they impact this course?

Typically my only responsibility is to myself. A family situation has complecated this semester.

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APPENDIX C-JOURNALS

Technical Writing 202

When I started the technical writing course, I expected that we would review how to write a resume and practice some mock interviews. I was not expecting much more. I was surprised to find the wide range of subjects that we have covered in the class. From software applications, writing an inner office business letter to what not to do when writing a letter of resignation. As a class we have covered a wide range of business procedures that are routinely performed every day. Procedures that as an employee I will be expected to be proficient at.

I think that the main strength of the course is the informal setting of the class. The students ask questions, and the class draws on individual experience to solve the problem. This way we have greater class participation and every student can evaluate their own strengths and weaknesses. On a personal level I have identified areas that I will improve on before I interview for a position in the computer field. I believe that this course will help the average student present themselves in a more professional manner during the interviewing process.

JOURNAL

My Feelings About This Course and PIT in General.

I enjoy this course because the class is structured to allow me to work on my projects freely and openly. The interaction with the instructor and the other students is very beneficial to me. It gives me the chance to see how the other students are doing their projects and it allows for brain-storming to evaluate and formulate my projects. I get some good ideas this way. I also like working on the computers as opposed to wring by hand.

I am a bit disappointed with the course selections at night and the facilities at PIT. PIT does not offer much at night and the equipment is not up to standards that one would expect in a technical school. This makes it difficult to complete the course in a reasonable time period.

Journal

I like the way the class is conducted. I am a quiet person and this course encourages me to get involved with other students. I like learning about the word processing program. Excel and Power Point. I think this class will help my writing and communication skills.

I enjoy working in teams because this helps me with my thoughts. Also, I like the freedom we have in the classroom.

Technical Writing 202

I've been at PIT for five semesters now. Taking two courses at a time during the evenings.

I can truely say that my time spent here has been enjoyable and educational at the same time. Each class and instructor has been different. My Algebra I instructor Mrs. Spears was very kind and knowlegable. She explained everything in easy to understand ways. Mr. Dykman was my AC/DC I instructor and he was good but he loved to talk about any and everything. In Psychology class I learned a great deal about myself and others. I enjoyed my instructor Mr. Bright. Now my Algebra & Trigonometry II instructor whose name I can't remember was a mathmatical wiz. We was three weeks ahead of schedule so he tossed a little calculus in. Technical Writting is turning out to be one of my most challenging and refreshing classes. There is so much that I can learn and use.

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Overall, PIT is all and more than I expected when I enrolled. My future is in great hands.

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The Benefits of going back to school

My course here at P.I.T so far have been successful. I have found that going back to school after twenty years have been most changeling and rewarding. My fears of returning to school have been unfounded. One reason why my fears have been remove is the help and encouragement I have receive from the teachers and staff at P.I.T. The course's offer here at P.I .T will no doubt help me in my future career and goals in life.

One example that highlights the benefits is the Technical Writing course. In school I had a hard time in expressing myself in written form. However, this course has help to communicate with people in written form. I still have a long way to go, but I know if I continue to apply myself in this area I will one day be skill in the art of writing.

To: Mr. Hall

In my opinion, I found your class very useful. I believe my english skills have improved. In addition, I have become more confident with some of the software applications being utilized in the job market. I believe the format of the way the class was organized is very useful. For example, the projects and learning material seemed to be more understandable with the students interacting with each other. I feel more confident in writing resumes, business letters, process papers as well as utilizing a lot of the Software packages than ever before.

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APPENDIX D-SURVEYS

Student Name: Date: 12-26-96

1. Explain how you feel about learning in a team environment and how this experience is different from the traditional lecture format.

a team environment gives me the opportunity to see how my classmates work. The class is concentrated on doing the assignments as opposed to being lectured or told to do it a certain way. In a work place assignments are handed to you with no one who teaches you to do it.

2. How do you think that the use of technology in this writing course enhanced your ability to communicate verbally as well as in writing. the more I research naturally improves as I write. With the use of computers that have spell check, thesaurus and grammar check as I write I can instantly check my work. I do not have to rely on the teacher to do so. This allows a student to advance quicker and further.

3. Does the use of technology in a writing course allow you to generate better ideas quicker. Yes!

as I explore and am able to fine tune and experiment with the documents because of computers.

4. How do you feel about having one of your peers introduce you to the benefits of using Power Point?

I am always interested in how others use computer programs! I get a lot of ideas from watching other people demonstrate how they use programs.

5. Explain how developing a mock research outline using Power Point was beneficial to you. Not much for me, however the verbal comments from the students who never used Power Point were very positive.

a:survey2

Mrs Hill,

Sorry for the delay in getting this to you.

Kay

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Student Name: Date: 12-14-96

1. Explain how you feel about learning in a team environment and how this experience is different from the traditional lecture format.
I feel that learning in a team environment is better because it gives you an opportunity to hear different points of view as a traditional lecture where it is presented in a style only atmosphere with no interaction.

2. How do you think that the use of technology in this writing course enhanced your ability to communicate verbally as well as in writing. I feel it has increased my understanding of the language and its usage.

3. Does the use of technology in a writing course allow you to generate better ideas quicker. It allows me to get my idea's down quicker.

4. How do you feel about having one of your peers introduce you to the benefits of using Power Point? I feel it was a good learning experience

5. Explain how developing a mock research outline using Power Point was beneficial to you. It allows you to see the flow of the report ~~writing~~ before writing it down. To see if the ideas flow in a logical manner.

a:survey2

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Student Name: Date: _____

1. Explain how you feel about learning in a team environment and how this experience is different from the traditional lecture format.

Learning in a Team Environment has helped me to work in a group scenario which has transformed my [illegible] in a team environment which has helped me

2. How do you think that the use of technology in this writing course enhanced your ability to communicate verbally as well as in writing.

Yes

3. Does the use of technology in a writing course allow you to generate better ideas quicker.

The use of Technology has greatly Enhanced my writing with the access to Information more quickly

4. How do you feel about having one of your peers introduce you to the benefits of using Power Point?

I feel that having been Introduced to Power Point the Benefits ~~of~~ has help me to be more Effective in making Business Presentations

5. Explain how developing a mock research outline using Power Point was beneficial to you.

It was Beneficial in developing a Presentation for my Sister Travel Business

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a:survey2

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Student Name: Date: 14 Dec '96

1. Explain how you feel about learning in a team environment and how this experience is different from the traditional lecture format.

In a team environment all members can participate and you can get feed back from people with a broader background, then any one member.

2. How do you think that the use of technology in this writing course enhanced your ability to communicate verbally as well as in writing.

I was exposed to parts of MS office that I never used and have found very useful.

3. Does the use of technology in a writing course allow you to generate better ideas quicker.

yes, the papers are more professional and I experiment with several formats before I decide on a style.

4. How do you feel about having one of your peers introduce you to the benefits of using Power Point?

Very Positive, a great way to learn.

5. Explain how developing a mock research outline using Power Point was beneficial to you.

Hands-on, learn how fast this Application can be used, yet how professional the results can be.

a:survey2

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Student Name: Date: Nov 22, 1996

1. Explain how you feel about learning in a team environment and how this experience is different from the traditional lecture format. I like working in a team environment because it helps to keep the interest within the lesson. Also, I believe because you learn or ask to grasp the lesson better with more than one mind.

2. How do you think that the use of technology in this writing course enhanced your ability to communicate verbally as well as in writing.
I very much think that the use of technology in this writing course has enhanced my communication and business related skills. Dramatically. I feel my confidence about how to interact within a business atmosphere.

3. Does the use of technology in a writing course allow you to generate better ideas quicker. Yes, I believe that the use of technology in a writing course allows you to generate better ideas quicker because you are able to revise your thoughts without re-writing a new letter, report, etc.

4. How do you feel about having one of your peers introduce you to the benefits of using Power Point?

5. Explain how developing a mock research outline using Power Point was beneficial to you. I believe that the Power Point outline helps you stay focus on your subject as well as establishing a set procedure of presenting your material

a:survey2

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Student Name: Date: 11/23/16

1. Explain how you feel about learning in a team environment and how this experience is different from the traditional lecture format.

Working in a team environment is always better, because you get more input and from the class.

2. How do you think that the use of technology in this writing course enhanced your ability to communicate verbally as well as in writing.

this was a "hands on" class, you always learn more when you are using the technology you will be using in your job.

3. Does the use of technology in a writing course allow you to generate better ideas quicker.

yes, because of the "on line" Spelling Grammar, and thesaurus check.

4. How do you feel about having one of your peers introduce you to the benefits of using Power Point?

I thought it was a great program I never saw it before. You learn more when you are not stressed.

5. Explain how developing a mock research outline using Power Point was beneficial to you.

it really organizes your work and lets you focus on each issue.

a:survey2

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Student Name: Date: 11-23-96

1. Explain how you feel about learning in a team environment and how this experience is different from the traditional lecture format.

The difference is miles apart. The group or team environment is a much more relaxed and pleasurable experience.

2. How do you think that the use of technology in this writing course enhanced your ability to communicate verbally as well as in writing.

I had to learn how to use applications sooner than I planned but it was to my benifit. I still need to improve my typing skills.

3. Does the use of technology in a writing course allow you to generate better ideas quicker.

Yes, I don't have to worry about erasing and formating and spelling.

4. How do you feel about having one of your peers introduce you to the benefits of using Power Point?

It showed me that if my peer could learn & master it, I could at least be competant.

5. Explain how developing a mock research outline using Power Point was beneficial to you.

I can use this in my presentations in the future for whatever need that there is.

a:survey2

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APPENDIX E-TRADITIONAL CLASSROOM

OBSERVATION OF TECHNICAL WRITING IN TRADITIONAL CLASSROOM
Friday, November 22, 1996, 11:30-2:30 pm

Number of Occurrences	***Discrete Event***	***Participants***
1	Quietly	Students enter room quietly. A couple of students greet their classmates.
1	TS	Teacher enters and greet students with a smile.
1	TS	Returned interview papers, apologized for getting them back late and explained grading procedure.
1	TS	Reminded students seeking employment to submit resumes to Job Developer.
1	Student to Group	Deryl said that the Career Services department wants all resumes regardless of work status.
1	TS	Teacher referred students to Chapter 8 which was assigned as their homework reading topic.
1	TS	Teacher spent a large portion of class review memo process. First discussed format of memo and then body of memo.
2	Whispering	Students chat while teacher is lecturing.
1	SG	Kate said, "that the memo should have expressed some personal regrets."
1	TS	Teacher shared the three types of memos she would prefer. One to an employee, one regarding a problem in the company and or giving instructions to an employee. She stated that students were free to submit memo to dean on their own.
1	Individual	Students individually reviewed 'bad' memo and teacher review problems with memo. David and Karen gave feedback.
1	SG=Student to Group	Karen said "said that the memo should have expressed some personal regrets."
1	Mumble	Some students mumble under their breath
1	ST	Students questioned why memo could not be addressed to dean.

1	Query	Teacher "with a smile" questioned if students had read chapter on memo.
1	Sharing notes	Two students passed notes to each other.
1	Sharing interview papers	A few students were looking at the comments on each other's interview papers.
1	TS	Teacher called on Karen several times for answers; asked Steward a couple of times.
1	ST	Deryl raised hand and answered questions regarding "conclusion of memo"
1	SG	Kate said she felt that the formal tone was okay if that was the way the person spoke.
1	TS	Asked students ways to order memos. Then shared the class that memos can be written in chronological order or order of importance.
1	TS Query	Kate asked did a comptroller do. Deryl gave his opinion. Teacher explained what she felt a Comptroller was and said she would investigate the differences between controller and comptroller.

OBSERVATION OF TECHNICAL WRITING IN TRADITIONAL CLASSROOM
Friday, November 22, 1996, 11:30-2:30 pm

General Observations

On Friday, November 22, 1996, I observed Technical Writing ENG 202 from 1:30-2:30 p.m. I sat in the back of the room unnoticed by most of the class members. I did speak to a student whom I recognized. His name was Deryl.

First, the instructor greeted the class with a smile and took roll. There were several students absent, but still good size class--1 female and 12 males present.

Next, she took care of other administrative details such as reminding graduating students to submit their resumes to Career Services by December 2.

The teacher lectured on the appropriate process for formatting memos and discussed the introduction, body and conclusion sections of a memo. She reminded students to remember audience and style. Then she distributed an example of a 'bad memo' and read it to the students and asked questions about what made this a bad. After some group discussion, she concluded by stating a few key points about the memo: the sentences were to long, informal language and verb tense

Summary

For fear of bias, I asked the English teacher to review these observations. She commented that I spelled one student's name wrong, only a few students participate, but she tries to call on others. Additionally, she stated that under jott 10--she only wanted students to do one of the three memos she recommended. Finally, she asked why were the students murmuring. I told her that students were not happy that they could not submit a memo with here approval to the Dean.

OBSERVATION OF TECHNICAL WRITING IN TRADITIONAL CLASSROOM
Friday, November 22, 1996, 11:30-2:30 pm

Extended Observations

- Students sit at long gray tables side-by-side each other
- Students whispered back and forth to each other on a few occasions
- Basically a quiet class teacher asked a question
- A few students, Karen, Hun and Deryl answered many of the question
- No sense of community or group interdependence
- Task emphasized; not integration time allowed